United States Court of Appeals

for the Second Circuit

PETITIONER'S BRIEF

ORIGINAL

To be argued by
JAY TOPKIS

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P/S

76-4044

United States Court of Appeals

For the Second Circuit

BOC INTERNATIONAL LIMITED, f/k/a The British Oxygen Company Limited, BOC FINANCIAL CORPORATION, BOC HOLDINGS, LIMITED, and BRITISH OXYGEN INVESTMENTS, LIMITED,

Petitioners,

against

FEDERAL TRADE COMMISSION,

Respondent.

On Petition for Review of and to Set Aside an Order of the Federal Trade Commission

BRIEF FOR PETITIONERS

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TABLE OF ABBREVIATIONS

The following abbreviations are used:

A	Joint Appendix, followed by the page or pages being referenced.
BOC PF	Proposed findings of fact, conclusions of law and order submitted by BOC, followed by the proposed finding or findings being referenced. BOC's proposed findings appear at A328-680.
BOC RX	BOC's exhibit, followed by the number of the exhibit being referenced.
CCR	Complaint counsel's reply to BOC's proposed findings, followed by the number of the table being referenced.
CX	Commission's exhibit, followed by the number of the exhibit being referenced.
F	Initial Decision, followed by the numbered findings of fact being referenced. The Initial Decision appears at A729-851.

United States Court of Appeals

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No. 76-4044

BOC International Limited, f/k/a The British Oxygen Company Limited, BOC Financial Corporation, BOC Holdings, Limited, and British Oxygen Investments, Limited,

Petitioners,

against

Federal Trade Commission,

Respondent.

On Petition for Review of and to Set Aside an Order of the Federal Trade Commission

BRIEF FOR PETITIONERS

This is a petition for review of and to set aside an order of the Federal Trade Commission, issued December 8, 1975, which would require petitioners* to divest themselves of their interest in Airco, Inc. Former Chairman Engman's opinion on behalf of the Federal Trade Com-

* BOC Financial Corp., BOC Holdings, Ltd. and British Oxygen Investments, Ltd. all are subsidiaries of BOC International Limited. All four petitioners are referred to collectively as "BOC" unless the context indicates otherwise.

mission, which has not been reported officially, appears at 3 Trade Reg. Rep. ¶21,063 and at pages A865 to A911 of the Joint Appendix. The Commission's Findings as to the Facts, Conclusions and Order are unreported and appear at pages A852 to A864 of the Joint Appendix.

Preliminary Statement

In any society which respects its judges, a brief of this length must begin with an apology, which we respectfully tender.

We are driven to this length, essentially, by two circumstances. First, we deal with a most extensive record, a great deal of testimony, a vast number of pages of documents—and a great many legal theories. More importantly, we seek to overturn an FTC decision which, in our view, substitutes assertion for evidence, speculation for reality. Assertion and speculation are speedily voiced—their confounding is an often laborious process.

STATEMENT OF THE CASE

Nature of the Case

Grounded on Section 7 of the Clayton Act,* this proceeding attacks BOC's 1973 acquisition of 35% of the common stock of Airco, Inc. The acquisition was made at a cost of more than $80 million by means of a tender offer. (A867-69)

The complaint charges that the acquisition may substantially lessen competition or tend to create a monopoly in four alleged lines of commerce—industrial gases, inhalation therapy equipment and accessories ("ITE"), inhalation anesthetic equipment and accessories ("IAE"), and medical pipeline systems—and that it may eliminate BOC as a potential entrant into the United States electrical welding and gas welding and cutting markets. (A23-24)

The case was tried on only these theories: first, that BOC's acquisition of an interest in Airco eliminated BOC

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* 15 U.S.C. §18. The statute provides in pertinent part:

"No corporation engaged in commerce shall acquire, directly or indirectly, the whole or any part of the stock or other share capital . . . of another corporation engaged also in commerce, where in any line of commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly."

as a potential entrant into the U.S. industrial gases industry and, second, that the acquisition eliminated existing competition between Airco and two small U.S. subsidiaries of BOC in alleged ITE and IAE markets. Complaint counsel withdrew their claims with respect to medical pipeline system and welding and cutting equipment. (A733, A869 and n.2)

The complaint charges also that certain agreements between BOC and Airco, related to the acquisition, violate Section 5 of the Federal Trade Commission Act. (A24, A869)

The Petitioners

BOC. BOC International Limited, formerly known as The British Oxygen Company Limited, is a publicly-held United Kingdom company with its principal office in London. (A736, A854; A867) Its business includes the production and sale of industrial gases, cryogenic equipment, welding and cutting products, vacuum engineering, medical equipment and supplies, chemicals, metals, and consumer products and the provision of food distribution services. (A737, A854, A867, A4816-18, A2414-16)

In the fiscal year ended September 30, 1973, BOC had sales of approximately $766 million, approximately half of which were derived from its operations in the United Kingdom and the balance from overseas subsidiaries and business interests, chiefly in countries that were formerly parts of the British Empire. (A867)

BOC does not have significant business interests in the Common Market, in Japan or, except for its interest

in Airco, in the United States. (A5349) It has never produced or sold industrial gases in the United States. (*See* A18, A3329, A3443) At the time of BOC's acquisition of an interest in Airco, BOC had two subsidiaries in the United States—Fraser Sweatman, Inc. and Harris Lake, Inc.—that were engaged in aspects of the medical equipment business more fully described below. (A902) Their aggregate sales in 1973 were one-half of one percent of BOC's total sales. (*Compare* A867 *with* A5781, A5783)

*Airco.** Airco is a publicly-owned New York corporation with its principal place of business in Montvale, New Jersey. It is engaged in the manufacture of various gases, ferroalloys and carbide, cryogenic equipment, metals, and medical equipment. Its 1973 sales were $584 million, the majority being derived from divisions having no connection to the products involved in this case. (A867, A3356)

Prior Proceeding—The Preliminary Injunction

On February 26, 1974, two months after the acquisition, the Federal Trade Commission issued a complaint charging that the acquisition violated the Clayton Act. On the same day the Commission applied to the United States District Court for the District of Delaware for a preliminary injunction pending disposition of the Commission's complaint. (A866) On March 8, 1974, the District Court issued a preliminary injunction requiring BOC, among other things, to maintain Airco as a separate company. *FTC* v. *British Oxygen Co.,* 1974-1 Trade Cas. ¶75,003 (D. Del.

* Airco is the petitioner in No. 76-4045, which will be heard with this proceeding.

1974). (A866) The preliminary injunction remains in effect.*

The Proceeding Below

As noted, the FTC administrative proceeding which culminated in the order here under review commenced on February 26, 1974. An expedited trial was ordered on motion of BOC. *British Oxygen Co.,* 3 TRADE REG. REP. ¶20,563 (FTC 1974). Twenty-eight witnesses testified and several thousand pages of documentary exhibits were received in evidence at the trial, which commenced on May 6, and concluded on June 27, 1974. (A866, A3492)

On October 18, 1974, the Administrative Law Judge ("ALJ") issued an Initial Decision (reproduced at A729-A851), holding that BOC's acquisition violated Section 7. It also held that certain agreements between BOC and Airco violated Section 5 of the Federal Trade Commission Act. (A840-41)

BOC and Airco appealed to the Commission. On December 8, 1975, the Commission issued its opinion as well as findings as to the facts, conclusions and an order. (A852-A911) Concluding that BOC's acquisition violated

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* Airco unsuccessfully sought reargument on two limited points, one of them being the portion of the District Court's injunction which barred Airco from disposing of or encumbering those of its assets which were unrelated to the lines of commerce involved in the FTC complaint. *FTC* v. *British Oxygen Co.,* 1974-1 TRADE CAS. ¶75,004 (D. Del. 1974). On January 21, 1976, the Third Circuit reversed, holding that the District Court's findings of fact failed to comply with Rule 52 of the Federal Rules of Civil Procedure, and vacated the portion of the preliminary injunction directed to Airco's unrelated assets. *FTC* v. *British Oxygen Co.,* 529 F.2d 196 (3d Cir. 1976) (*en banc*). The other aspects of the preliminary injunction remain in effect.

Section 7, the Commission ordered BOC to divest its interest in Airco. (A861-64)

The Opinions Below

The Initial Decision. The ALJ's Initial Decision held that this acquisition violated Section 7 with respect to the three lines of commerce relied upon by counsel supporting the complaint: industrial gases, ITE and IAE.

The ALJ's holding with respect to industrial gases was based on three independent grounds. First, the ALJ invoked the "fringe effect" theory of *United States* v. *Falstaff Brewing Corp.*, 410 U.S. 526, 532-33 (1973), holding the acquisition unlawful because it lessened competition by eliminating a procompetitive effect which BOC was said to have exerted on the U.S. market from Britain. (A821-25) Second, the ALJ held the acquisition bad because it eliminated the possibility that BOC might in the future enter the U.S. industrial gases industry by a more procompetitive means. (A825-31) Third, the ALJ concluded that BOC's acquisition of an interest in Airco increased concentration in the gases market, substantially increased barriers to entry and therefore was unlawful (A832)—the ruling evidently being based on the "entrenchment" theory of *Procter & Gamble Co.*, 63 F.T.C. 1465 (1963), *vacated*, 358 F.2d 74 (6th Cir. 1966), *rev'd*, 386 U.S. 568 (1967).

The ALJ found also a violation in the alleged IAE market, concluding—on traditional horizontal merger criteria—that the acquisition unlawfully combined Airco with BOC's U.S. medical equipment subsidiaries. (A797, A5333-34, A835-37)

The ALJ recognized that the infinitesimal share of the ITE "market" held by BOC's tiny U.S. medical equip-

ment subsidiaries provided no basis for attack. (A838) But he ruled in substance that the Airco acquisition eliminated BOC as a potential entrant into the ITE market and therefore was unlawful. (A838-40) He did so although the case was tried on an actual competition theory and complaint counsel specifically disavowed reliance on potential competition.

Finally, the ALJ concluded that Airco violated Section 5 of the Federal Trade Commission Act by entering into two agreements with BOC, which in his view facilitated BOC's tender offer. (A840-41) This conclusion was based entirely on the premise that the acquisition violated Section 7 of the Clayton Act (A841); it was conceded below that, if the acquisition were lawful, there was no violation of Section 5. (A1381-82)

The Commission's Opinion. The Commission reached much the same result as the ALJ, but by a substantially different path.

The Commission too held that this acquisition violated Section 7 with respect to the industrial gases market on potential competition grounds. For the most part, however, it abandoned the grounds relied upon by the ALJ.

The FTC vacated the ALJ's finding that BOC exerted a procompetitive influence on the industrial gases industry as a perceived potential entrant on the fringe—the Commission found the ALJ's conclusion unsupported by the evidence. (A879 n. 8) It also vacated the ALJ's finding that this acquisition increased concentration and raised entry barriers—again there was no supporting evidence. (A879 n. 8) It agreed, however, "that as of December 1973, there was a 'reasonable probability' that BOC would have eventually entered the U.S. industrial gases market

by internal expansion, or its equivalent, but for the acquisition of Airco . . . ." (A891)

Thus, the Commission rested its decision with respect to industrial gases solely on what it deemed a "reasonable probability" that BOC would enter the market in a more procompetitive manner at some unspecified time in the future, but for this acquisition. The Commission found no actual or probable anticompetitive effects of the acquisition itself. The Commission therefore was confronted squarely with the unresolved issue reserved by the Supreme Court in *Falstaff, supra,* 410 U.S. at 537, and *United States* v. *Marine Bancorporation,* 418 U.S. 602, 625-26 and n. 28 (1974)—whether an acquisition, the sole effect of which is to eliminate the acquiring company as a probable future entrant, violates Section 7. The Commission answered "Yes."* (A892-94)

The Commission threw out the ITE case altogether, on the grounds that the ALJ's reliance on a potential competition theory was improper in light of complaint counsel's disavowal, and that there was no proof of any relevant product market. (A907-09)

The Commission concluded also that the grab-bag of inhalation anesthesia products did not constitute an IAE product market. But so holding, the Commission did not give up. Instead, it chose to redefine its case at the appellate level. Without notice to BOC, the Commission con-

* We should perhaps note the Commission's speculation that the acquisition eliminated the possibility that BOC might someday in the future exert a procompetitive influence from the fringe—even though it had not to date. (A880) The Commission, did not, however, find that this was probable. There is no evidence whatever to support the Commission's speculation and the Commission placed no reliance on this comment.

cluded that anesthesia machines, anesthesia vaporizers and anesthesia face masks—three of the 18 or more items included in IAE—each constituted a separate product "market". The Commission culled some sales data concerning these products from the record, purported to calculate market shares, and held that this acquisition violated Section 7 in each newly-discovered "market" on traditional horizontal merger grounds. (A903-07) The Commission so ruled despite the fact that complaint counsel never advanced these "markets". Indeed, complaint counsel had specifically disavowed reliance on any submarket in IAE (A1960), and BOC expressly relied upon that representation in trying the case. (A3186-87)

The Commission affirmed the ALJ's conclusion with respect to the BOC-Airco agreements. (A909) It issued an order requiring, among other things, that BOC divest itself of its Airco stock. (A861-64)

SUMMARY OF ARGUMENT AND ISSUES PRESENTED

Industrial Gases

The industrial gases case is premised exclusively on the doctrine of potential competition, as BOC was not in the U.S. industrial gases business prior to its acquisition of an interest in Airco.

The potential competition doctrine actually is an amalgam of three different theories. It is useful to set them out briefly at the start.

The first branch of the doctrine has been referred to by the Supreme Court as the "perceived potential entrant," the "wings," or the "fringe effect" theory. *Falstaff Brewing Corp., supra,* 410 U.S. at 559-60 (Marshall, J., concurring); *Marine Bancorporation, supra,* 418 U.S. at 623-25. It relates to the possibility that a firm not in a market will be perceived as likely to enter by those already there and that the existing competitors will limit their prices to discourage the firm from entering. *Ibid.; Procter & Gamble Co., supra,* 63 F.T.C. at 1551-52, 1578. The perceived potential entrant theory holds that an acquisition by a company that previously was perceived as likely to enter may be unlawful because it removes the beneficial effect the

company had exerted from the "fringe" and thereby lessens competition. *Ibid.*

The second branch of the potential competition doctrine is the "dominant entrant" or "entrenchment" theory, which holds that an acquisition may be unlawful because the acquiring company may bring such overwhelming competitive advantages to the acquired firm as to make it dominant in its industry or raise barriers to entry. *E.g.*, *Falstaff Brewing Corp., supra,* 410 U.S. at 558-59 (Marshall, J. concurring); *Missouri Portland Cement Co.* v. *Cargill, Inc.*, 498 F.2d 851, 865-66 (2d Cir.) (Friendly, J.), *cert. denied,* 419 U.S. 883 (1974); *Procter & Gamble Co., supra,* 63 F.T.C. at 1563-67.

The third branch of the potential competition doctrine deals with the possibility that an acquisition of a large firm may be unlawful because the acquiring company, but for that acquisition, might have entered the market de novo or by toehold acquisition and might thereby have increased competition in the industry. This aspect of potential competition has been referred to as the "actual potential entrant" theory. *Falstaff Brewing Corp., supra,* 410 U.S. at 560-61 (Marshall, J., concurring).

The actual potential entrant theory is unique among the branches of the potential competition doctrine in two respects. First, it does not deal with the possibility that the acquisition will reduce *existing* competition. It focuses instead on whether the acquiring company, if it had not made the acquisition under review, was likely to have entered the market in the future by means that would have increased competition *in the future.* Second, the actual potential entrant theory is the only branch of the potential competition doctrine which has not been adopted by the Supreme

Court. As we shall see, the Court indicated in both *Falstaff* and *Marine Bancorporation* that it had not yet decided whether to extend the potential competition doctrine to this extreme.

As to industrial gases, the Commission here held BOC's acquisition violative of Section 7 solely on the basis of the actual potential entrant theory.* The Commission held that BOC, had it not made this acquisition, was reasonably likely eventually to have entered the U.S. gases industry de novo or by toehold acquisition, and that such a hypothetical future entry would be of "competitive significance." (A891, A901) This case, therefore, presents a range of novel and far-reaching issues relating to the actual potential entrant theory, including the question reserved by the Supreme Court in *Falstaff* and *Marine Bancorporation*—the validity of the actual potential entrant theory as a matter of law.

BOC submits that the Commission's decision is fundamentally erroneous in virtually every respect.

First, on this record the conclusion that BOC was reasonably *likely* to enter the U.S. gases market de novo or via toehold acquisition is unsupportable. While BOC readily concedes that the U.S. gases market has always been of interest to it, and that it long has had the technical ability to enter, the fact is that BOC never did enter in the 75 years of its existence. Far from it. In 1969-70, BOC undertook a major study designed to determine whether there was a commercially feasible means of entering the U.S. gases market. The study concluded that there was not. Undisputed evidence below—adopted by the Com-

* The Commission ruled that there was no evidence that this acquisition eliminated a procompetitive "fringe effect" previously exerted by BOC or that it would increase entry barriers or "entrench" Airco as a dominant firm. (A879 n. 8)

mission—established that the barriers to entry are extraordinarily high. Over the years, BOC has been approached on several occasions by small U.S. gases companies desiring to sell out to BOC, and BOC rejected every offer. There is an unbroken chain of documentary evidence, much of it antedating this acquisition by years, showing that BOC had no plans to enter, did not regard itself as well equipped to enter, thought entry (other than by a major acquisition such as this) would be commercially impractical, and budgeted no funds for entering the U.S. gases business. Its plans for the foreseeable future were to focus on other businesses in other parts of the world. Thus, not only did the Commission fail to prove that BOC was likely to enter—BOC proved the contrary by evidence which was not in dispute.

Second, the Commission's finding of a "reasonable probability" that BOC "eventually" would have entered does not comport with the standards set by Section 7. All Section 7 cases involve some speculation as to the future, because it is necessary to predict the competitive consequences of the acquisition in question. Actual potential entrant cases, however, require a double prediction. One must predict first that the acquiring firm would have entered by another means but for the challenged acquisition, and that such other means of entry ultimately would produce substantial procompetitive effects. In view of this piling of speculation on speculation, we submit that the overall test of a reasonable probability of procompetitive effects is met only where there is the clearest proof that the acquiring firm would have entered by another means—for even then there would remain uncertainty as to the probable competitive consequences of the entry. And so, we submit, the Commission erred in treating BOC as an actual poten-

tial entrant merely on a finding of a "reasonable probability" of entry "eventually."

Third, if the Commission had established the requisite degree of likelihood that BOC would have entered, and if it had proved that such an entry would have been procompetitive, this Court would then have to deal with the question of law reserved in *Falstaff* and *Marine Bancorporation*. There the Court left for another day the issue whether an acquisition which does not threaten to lessen existing competition is unlawful solely because it eliminates the possibility that the acquiring company might enter the market de novo or by toehold acquisition and thereby increase competition. *Falstaff Brewing Corp., supra*, 410 U.S. at 537; *Marine Bancorporation, supra*, 418 U.S. at 625-26 and n. 28. We submit that neither the language, the history nor the policy of Section 7 can be squared with the actual potential entrant theory. Section 7 bars acquisitions which are reasonably likely substantially to *lessen* competition. As the Commission found, this acquisition does not threaten to lessen competition. At worst, it removes the possibility that BOC might in the future enter the market and thereby *increase* competition. An expansion of the plain language of the statute to bar such an acquisition—which the legislative history shows never was considered by Congress—would be an improper exercise in judicial legislation.

Fourth, the Supreme Court recently has held that the potential competition doctrine applies only to concentrated oligopolistic, noncompetitive industries. Unless an industry satisfies these criteria, and perhaps even if it does, the elimination of a potential entrant is unlikely to be significant. Here the Commission failed to establish that the doctrine of potential competition has any real importance

in the industrial gases industry. The industry, first of all, exists in the shadow of the powerful and sophisticated industrial giants that it serves—the steel, chemical and petroleum industries. These firms have back-integrated to a significant extent to produce their own industrial gases, and the ever-present threat of further back-integration imposes a substantial check on the development or exercise of market power; it insures competitive practices. The industry, moreover, is by no means as concentrated as the Commission would have the Court believe. The Commission has been able to present imposing concentration statistics only by eliminating from its calculations the substantial amount of industrial gases produced by back-integrated users. In so doing, it has ignored this Court's decision in *United States* v. *Aluminum Co. of America*, 148 F.2d 416 (2d Cir. 1945), ignored the competitive realities of the industry, and thereby presented a most distorted picture. Finally, if the standards the Commission applied to BOC were applied to other firms, this record discloses an abundance of equally or more likely entrants. The elimination of BOC therefore is insignificant.

Fifth, the Commission simply assumed that de novo or toehold acquisition by BOC would have significant procompetitive effects—it cited no evidence to support the assumption. There is none in this record. Indeed, the rather peculiar characteristics of this industry suggest that the assumption is not even reasonable.

If the Court rules for BOC on any of the issues outlined above, it must dismiss the complaint as it relates to industrial gases.

Medical Equipment

The medical equipment aspect of this case is trifling. The combined sales of BOC and Airco in the three medical

product lines which the Commission ruled relevant account for less than 0.4% of their total combined sales. (*Compare* A906 *with* A867)

A violation of Section 7 in these medical equipment lines—which we submit does not exist—would not alone justify requiring BOC to divest itself of its Airco stock, and we do not believe the Commission would think otherwise.

Turning briefly to the merits, BOC has one overriding objection to the Commission's decision on medical equipment. The Commission originally alleged that the relevant product market was "inhalation anesthetic equipment and accessories", an amalgam of more than eighteen separate products. (A902 n. 29) The Commission's counsel expressly and unequivocally disavowed reliance on any submarkets. (A1960) BOC relied upon that representation throughout the trial. (*E.g.*, A3186-87) On appeal, the Commission agreed with BOC that inhalation anesthetic equipment and accessories was not a proper product market. But it went on to hold that three items—anesthesia face masks, anesthesia machines and anesthesia vaporizers —each constituted a relevant product market and that this acquisition violated Section 7 in each of those "lines of commerce."

The Commission, having found that the complaint it brought was not meritorious, was not at liberty to adopt an entirely new theory of the case, particularly after its trial counsel specifically disavowed the very theory which the Commission later adopted. As in ITE, the Commission simply failed to prove its case. The medical equipment case therefore should be dismissed.

INDUSTRIAL GASES

Some Basic Facts

What Are Industrial Gases?

"Industrial gases" is a term applied to a wide variety of quite different chemicals that normally exist in the gaseous state. Acetylene, argon, carbon dioxide, helium, hydrogen, nitrogen, oxygen, and nitrous oxide are among the gases commonly regarded as "industrial gases". (A870)

An "industrial gases company" may be defined as a firm producing one or more industrial gases primarily for sale, rather than for its own use or for sale as a by-product.

The heart of the industrial gases business is the separation of air into its component gases—principally oxygen, nitrogen and argon—by fractional distillation. (A745, A748-49, A854) Although the figures present problems, the scale is suggested by the fact that the 1972 f.o.b. plant value of shipments of oxygen, nitrogen and argon reported to the Census was $382.2 million, of which oxygen accounted for 57%, nitrogen for 34%, and argon for 9%. (A5096-97)

This compares with total reported shipments of all industrial gases of $649 million. (A758-59, A855)

Industrial gases not derived from air are produced by dissimilar processes and in different plants. (A871, A1180)

The Commission found that industrial gases are not usually substitutable for one another; each "is almost invariably used for its unique chemical properties." (A745, A854, A871)

Distribution Structure

The industrial gases industry has two major marketing segments: tonnage and merchant.

Tonnage refers to supplying a customer whose demand at a single location justifies constructing a "tonnage" or "on-site" plant near his, which will be devoted entirely or primarily to providing him with many tons of gas daily through a pipeline. Steel and chemical companies are typical tonnage users. (A870, A749, A854) In fact, the steel industry consumes over 65% of all oxygen produced in the United States.*

Tonnage plants may be owned and operated by industrial gases companies with the output sold under long-term supply contracts, or the user may itself own and operate a plant which has been built for it by either a gases company or a company specializing in plant construction. (A2689-90, A2749, A2418-20, A2424-26, A1202-11, A1357-58, A1482-84) Typically, today, the prospective tonnage customer—which is fully able to produce its own gases if

* In 1972, 353.2 billion cubic feet of oxygen were produced in the United States. (A5097) Of this total, more than 233.8 billion cubic feet were consumed by the steel industry. (A5108)

it so desires (A1208-11, A1482-83, A2923-24)—will compare the cost of a supply contract with that of purchasing and operating its own plant in choosing between these alternatives. (A2438-40, A2690-91) Companies from all over the world vie to build and sell tonnage plants. (A1209-11, A2688, A2424-26)

Merchant refers to sales of gases in smaller quantities. The gas is transported to the customer either in gaseous form in cylinders or as "bulk liquid"—larger quantities shipped in liquid form. (A870) Because of high transportation costs, gases tend to be sold no more than a few hundred miles from the point of production; helium, found in only a few areas of the world, is the only exception—it is shipped throughout the world. (A872, A751, A854, A1629)

Tonnage and merchant marketing are significantly interrelated. A gases company building a tonnage plant will often construct excess capacity, sell the excess in the merchant market and benefit from the economies of scale which otherwise would not be available in production for merchant sale. (A870) There are not many plants devoted solely to producing for the merchant market. (A2515-16)

Producers and Sellers

Majors and Independents. The industrial gases companies were classified at the hearing as either "majors" or "independents".

The majors are, in order of value of shipments reported to the Census Bureau: (1) the Linde Division of Union Carbide Corporation, (2) Air Products & Chemicals, Inc., (3) Airco, (4) Chemetron Corporation, (5) Liquid Air,

Inc., (6) Liquid Carbonic Corporation, and (7) Big Three Industries, Inc. (A874, A1784)

These are all substantial enterprises. Linde is among the largest industrial gases firms in the world and is part of Union Carbide, one of this nation's largest corporations, with 1973 sales of $3.9 billion. (A5185; *Fortune*, May 1974, pp. 232-51) Air Products is an international competitor in the industrial gases business with interests in Britain, Europe, South America and Canada. (A1278, A1311, A1328, A1354; BOC RX 186) Chemetron is a diversified firm engaged in the industrial gases, medical equipment, chemicals and metal products business; it had 1973 sales of $358 million and ranked 392nd of the *Fortune* 500. (BOC RX 39A-D; *Fortune*, May 1974, pp. 232-51) Liquid Air is a subsidiary of the French company, L'Air Liquide, the world's largest industrial gases company. (A4915, A1174) Liquid Carbonic is a subsidiary of Houston Natural Gas Corp., a major industrial corporation primarily engaged in the natural gas business. (A5564, A5583-84, A1136) Big Three is a New York Stock Exchange-listed company with 1973 sales of $119 million. (A5057)

The majors are much larger than the independents. Each major reported shipments of industrial gases of at least $24 million in 1972. (A874) With the exception of Burdett of Cleveland, which had shipments of $12.7 million (A874), no independent reported shipments of more than $5 million. (*See* A2494, A3005)

The four largest majors—Union Carbide's Linde division, Air Products, Airco and Chemetron—operate nearly nationwide. (A751, A854) Liquid Air does not operate in the Northeast and Midwest. (A1462) Big Three is

concentrated in the South, especially the Houston area, where its market share is over 50 percent. (A751, A854; A1853; A5562)

The independents are quite limited geographically. Burdett of Cleveland operates primarily in the Midwest. The smaller companies cover areas as small as a radius of 35 miles. (A751, A854; A1666-67; A1776-77; A1803-04; A1720-22)

Indeed, it would be most accurate to say that most of the independent industrial gases companies are more welding supply distributors than they are producers of industrial gases. (*See* A2490-91, A2494) They have trifling production facilities for atmospheric gases, and perhaps acetylene, and buy their other gases from the majors. (A1649, A1666-68; A2490-91; A1670-73; A1775) Alabama Oxygen, for example, is a welding supplies distributor which also sells industrial gases, much of which it buys from other companies. (A1774-77) It has two air separation plants, one having a daily capacity of 5-7 tons and the other of 28-30 tons—although a plant with a capacity of at least 250 tons is now necessary for economic operation. (A1802; A1338; A1363-64) And its plants are located in the shadow of a 1,000-ton Airco plant. (A2715)

Other Producers. As we have noted, many large users of atmospheric gases own and operate tonnage plants to supply their own requirements—most typically, steel companies needing oxygen for the basic oxygen process, which has become the standard method of steel production.* (A1191; A1200-03; A1357-58) These producers include United States Steel, Ford Motor Company, McLouth Steel,

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* *See Kaiser Industries Corp.* v. *McLouth Steel Corp.*, 400 F.2d 36, 40 (6th Cir. 1968), *cert. denied,* 393 U.S. 1119 (1969); ELLIOTT, *Steel Production,* in 17 ENCYCLOPEDIA BRITANNICA 637, 641, 663

Wheeling-Pittsburgh Steel and National Steel. (A3528-29; A1357-58; A1200-03; A2910-11) Many petroleum refiners, ammonia producers and chemical companies make their own hydrogen. (A1206; *see* A5097 n.5) And, as complaint counsel's witness Flamm testified: "There is probably a list of 50 companies in the chemical industry that produce" various industrial gases "for their own processes." (A1206)

These vertically integrated producers of industrial gases account for a substantial part of U.S. gases production. They produce about 15% of all oxygen produced and a substantial share of the nitrogen. (A374-77*) The vast bulk of hydrogen production is by such firms. (A378-79*)

These firms sell surplus gases to industrial gases companies and, on occasion, to independent distributors. (A3528-30; A1267-68; A1864-66)

Industrial gases are quite commonly produced as by-products. (A1206-07) Much of the carbon dioxide, hydrogen and helium sold by the gases companies, for example, is not made by them, but is purchased from petroleum and chemical companies such as Sun Olin Chemical, Phillips Petroleum, Union Oil and PPG Industries, which produce them as by-products. (A1864-66; A1356; A1360; A1184-85; A2684-86; A2741-42; A1480-81; A1681; A2935; A5568-69)

Distributors. The industrial gases companies sell not only to ultimate consumers, but also to distributors all over the country who resell in the merchant market. (A1226; A1843; A2765) Typically, distributors are small family businesses engaged in supplying the welding trade with

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* The data employed in the cited portions of BOC's proposed findings before the ALJ are taken from exhibits in evidence below. The exhibits are cited in the findings and included in the appendix.

gases and equipment. (A2706-07; A2490-91; A1211-12; *see* A1581) These distributors normally buy their gases exclusively from one company under term contracts. (A1215; A1257-58; A3543; A5954)

History of the Industry

The industrial gases industry has come of age only in the last twenty years. Prior to the mid-1950's, oxygen and nitrogen were produced only on a small scale in widely scattered facilities, primarily to handle local needs for such uses as welding and hospital breathing gas. (A5266)

The industry's modern development has been closely tied to advances in steel production technology. Beginning in the mid-1950's, the steel industry began to generate enormous demand for oxygen as a result of the development of the basic oxygen process ("BOP") for steel manufacture. As new steel plants were built and old ones converted to the BOP, demand for oxygen grew rapidly. In 1956, when the BOP was first used in the United States,* total oxygen consumption in the United States was approximately 48 billion cubic feet, of which slightly over one-third was used by the steel industry. (A4190; A5266) By 1972, total U.S. oxygen consumption had risen more than sevenfold, to 353.2 billion cubic feet, of which the steel industry used over 65%. (A5097; A5108)

The steel industry's runaway demand for oxygen had a profound effect on the industrial gases industry. Tonnage air separation plants were constructed to supply steel mills (A2625-27; A2750-51; A5557; A4068-69), and this in turn prompted the trend toward the construction of extra ca-

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* ELLIOTT, *Steel Production*, in 17 ENCYCLOPEDIA BRITANNICA 637, 647 (15th ed. 1974).

pacity on tonnage plants, with the excess gas being sold in the merchant market. (A2702; *see* A5557-58)

The great expansion in oxygen production sparked the growth of the nitrogen and argon segments of the industry. Since nitrogen and argon are co-produced with oxygen—*i.e.*, the separation of air to produce oxygen necessarily yields nitrogen and argon at little additional cost—cheap nitrogen and argon became available and this led to the development of new applications for these gases. (*See* A2920-21, A2926)

Starting in the early 1960's, the development of the U.S. space program also added substantial new demand. (A4068, A4070)

The rapid growth in atmospheric gases—the heart of the industrial gases industry—through the late 1950's and the 1960's is demonstrated by the following table:

GROWTH OF VOLUME OF SHIPMENTS OF ATMOSPHERIC GASES

Total Shipments*

(units are billion cubic feet)

	Nitrogen	*Oxygen*	*Argon*
1972	176.8	301.8	3.80
1963	44.0	119.0	0.97
1958	5.5	33.5	.38
COMPOUND RATE OF ANNUAL INCREASE			
1963-72	16.7%	10.9%	16.4%
1958-72	28.1%	17.0%	17.9%

* Sources: 1972 and 1963 figures appear in BOC RX 191 (A5209), BOC RX 194 (A5212) and BOC RX 198 (A5216). The 1958 data are not in this record. We believe these data

(footnote continued on next page)

During the 1960's, construction of tonnage air separation plants with excess liquid capacity led to great oversupply in the merchant market. (A2701-02; A889) In the years just prior to this 1973 acquisition, capacity and demand came more nearly into balance. Indeed, during the period just before the hearing below—concurrent with the imposition of Federal price controls—there were some limited (1% to 2%) shortages in the merchant market in certain parts of the country, although there was ample supply elsewhere. (*E.g.*, A2697, A2702-03; A2723-24, A1474-75) The gases companies quickly moved to supply the shortages areas, announcing a host of new plants which by now have come on stream. (A1474-77; A2723-24; A2697-98)

As the steel industry has approached completion of its conversion to the basic oxygen process (*see* A4191), and the space program has been curtailed (*see* A2750-51), the rate of growth of the U.S. industrial gases industry has tapered off. While some new applications have been developed and others are foreseen (A889), the anticipated growth rate for the foreseeable future does not begin to approach that which the industry experienced over the ten to fifteen years prior to the hearing below. Thus, the FTC estimated that the industry would experience a compound growth rate in shipments of up to ten percent per year over the next five years. (A889) But this compares unfavorably with the

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are necessary to place in context the assertion upon which the Commission placed great reliance that BOC would have been reasonably likely to enter the U.S. gases market because of a projected growth rate of "up to 10 percent." (A889) The 1958 data are taken from U.S. Bureau of the Census, *Census of Manufacturers: 1958, Vol. II, Industry Statistics, Part I, Major Groups* 20 to 28, at 28A-17 (1961). We request that the Court take judicial notice of these data. *See Granville-Smith* v, *Granville-Smith*, 349 U.S. 1, 12-13 n. 19, 14 n. 20 (1955); *Skolnick* v. *Board of Comm'rs*, 435 F.2d 361, 363 (7th Cir. 1970).

compound annual growth rates for recent years as set forth in the above table. (*Supra,* p. 25)

Since the hearing below, conditions in the industry have taken a marked turn downward. Not only has the growth rate projected by the Commission not been met, but the volume of production of the major gases has declined significantly, as shown by the following table:

PRODUCTION OF PRINCIPAL GASES: 1974 VERSUS 1975*

(units are million cubic feet, except carbon dioxide, which is reported in short tons)

	1974	*1975*	*% Change*
Oxygen	388,451	350,714	–9.7%
Nitrogen	237,124	236,453	–0.3%
Hydrogen	72,132	64,968	–9.9%
Carbon dioxide	1,458,380	1,378,624	–5.5%
Acetylene	7,472	6,477	–13.3%

We do not mean to be unfair in thus confronting the Commission's forecasts with the facts as they have developed. We mention these post-acquisition data only to place in perspective the Commission's perception of a future growth rate of "*up to* 10 percent." (A889) (emphasis added)

The Problems of Entry

We are in full agreement with the Commission's finding that "[t]here are substantial barriers to entry into the

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* Source: U.S. Bureau of the Census, *Current Industrial Reports, Industrial Gases,* December 1975, Series M28C(75)-12 (1976). We request the Court to take judicial notice of these data. *See Granville-Smith, supra,* 349 U.S. at 12-13 n. 19, 14 n. 20; *Skolnick, supra,* 435 F.2d at 363.

production and marketing of industrial gases in the United States." (A762, A855)

As the FTC found: "The production and marketing of industrial gases in the United States is capital intensive." (A762, A855) A company interested in becoming a nationwide competitor in the United States market—and as the Commission recognized, that was the only role that interested BOC (A751-52, A854)—faces a heavy capital requirement. For example: in 1973 an air separation plant producing 250 tons of gases per day—a typical plant in 1973 (A1300-01, A1338, A1363-64)—cost \$7-8 million; larger plants ranged up to \$16 million. (A762, A855) A nationwide company has a great number: Airco, for example, operated 19 in 1973. (A4851) Assuming a median cost of \$11.5 million per plant, duplication of Airco's atmospheric gas production facilities alone would have cost \$218.5 million—without mentioning facilities to produce other than atmospheric gases.*

Moreover, capital costs for distribution facilities and start-up costs would be substantial. (A5931-53, A5561) And this cost would be coupled with a lengthy construction period in which there would be no revenue.**

Another significant problem that would confront a new entrant is the need for "back-up"—the ability to supply gas to a major customer from alternative sources when the producer's supplying plant is out of service. (A878, A2507-09, A2692-93) A new entrant building one plant, or even several widely separated plants, could not provide back-up economically from its own facilities. It could

* In 1973, Airco had 26 acetylene plants, two carbon dioxide plants, two hydrogen plants, five helium plants, 19 on-site nitrogen plants and five specialty gas plants. (A5279, A5286) The record does not indicate their duplication cost.

** Plant construction typically takes about two years. (A1147)

obtain back-up only from its competitors, a serious disadvantage.* (A2507-09; *see* A2721-22, A2772)

Another barrier to entry is the fact that tonnage supply contracts and distributor contracts typically have lengthy terms, usually 10 to 15 years for tonnage and as long as five years for distributors. (A2419-20, A3525-26, A3541-43) Merchant market customers are also under contract to the gases companies, with about one-third expiring annually. (A3540-42) Thus a new entrant would find much of the market closed to him by contractual arrangements. (*See* A5879)

Still another problem is that the economies of scale in production of gases make it important to enter both the tonnage and merchant markets simultaneously. As we have seen, gases companies typically produce for the merchant market by adding extra capacity to tonnage plants, thereby obtaining gases for the merchant market at costs lower than could be obtained from non-tonnage plants. (A870) This permits the gases companies to make a profit on sales in the merchant market while taking the long-term tonnage contracts virtually at cost.** (A2439-40, A2501-05) Thus, a company trying to enter the tonnage market alone could not be competitive with existing firms that can quote lower tonnage terms because of profits made

* The back-up problem is no advocate's fantasy. When this matter was before the Delaware District Court, the Commission's economist stated in an affidavit that among the barriers to entry is the fact that "[a]ny potential entrant must enter on a multiplant basis in order to be able to compete for large bulk accounts. This is primarily due to the need for back-up capacity to ensure that a large direct customer is not caught without products, should a breakdown occur at one air separation plant." Affidavit of Robert O. Reck, ¶5, *FTC* v. *British Oxygen Co.*, No. 74-31 (D. Del., filed Feb. 26, 1974).

** As is discussed below, prices in the tonnage market are kept to a minimum because tonnage customers are able to produce gases themselves if the gases companies' prices rise. Many have found it advantageous.

on merchant gases, while a company entering the merchant market alone would find its production costs higher than the incremental costs of tonnage-producing firms. (*See* A5557) Indeed, the Commission found that "[t]here are very decisive economies of scale in the production of gases from a tonnage plant." (A898) As BOC's chairman testified: "The key to the market lies in the tonnage plant." (A2596)

The problems of entry are compounded for foreign companies. Typically, they will be unfamiliar with practices in the U.S. business world and will not have had experience in such important areas as distribution, labor relations, and finance. Unlike domestic companies, foreign firms often will not have existing U.S.-based corporate structures. Moreover, they would lack familiarity with U.S. marketing styles and practices.

BOC and the United States

Clearly, BOC has always regarded the United States as being "of continuing interest," both as a source of technology and expertise and as a possible area for expansion in all of BOC's many lines of business. Specifically, BOC has carefully considered whether to enter the U.S. industrial gases market, and it has availed itself of opportunities to gain information about the market and the companies in it.

But it is equally clear that, as of mid-1973, BOC had concluded that there was no commercially feasible means for it to enter the U.S. gases market. It is clear that BOC's plans and budgets all pointed away from the United States.

BOC developed from a small firm founded late in the nineteenth century. In 1956, BOC enjoyed a virtual mo-

nopoly of the United Kingdom gases business. (A2559-69, A2622-32)

In the years before 1956, BOC slowly expanded its industrial gases interests into a number of emerging British Commonwealth countries. (A2562-64, A2630-32) Virtually all of these entries had a number of significant features in common: (1) they took place in countries with low levels of industrial activity; (2) BOC did not face well-entrenched competition; and (3) they took place long before the advent of tonnage production. (A2559-69, A2622-32, A4264-70) Thus, BOC's expansion recapitulated its genesis: it entered new markets very early and then grew with them.

There was one exception—BOC's entry into Canada shortly after World War II. There, BOC made an unsuccessful de novo entry and thereafter a number of small acquisitions in a mature industrial market. (A4265) BOC had no extraordinary success. After 10 to 12 years of operation and further acquisitions, BOC's Canadian company, Canox, was still in the red. In 1973, after about 25 years of operation, Canox had gases sales of only $8 million —8 to 9% of the Canadian market. It had no tonnage contracts, and its 20-ton production facility was so small that it was forced to buy more gases from its competitors than it made itself. (A3331-32, A2798-2803, A2516-17, A2561-62, A2606-07, A4265)

By the late 'sixties, BOC was not merely a gases company: it was engaged in a broad spectrum of activities, ranging from welding equipment to chemicals to metals to gases. (*E.g.*, A3618-19) But because of its history of entering relatively underdeveloped countries, BOC had no significant operations in the three major industralized areas

of the world—continental western Europe, Japan and the United States. (A5349)

In 1967, BOC embarked upon an effort to play an indirect role in the American gases business: it entered into a joint venture with Airco whereby BOC would build the "cold boxes" for air separation plants—the core of the plant—in the United Kingdom, and Airco would use that equipment to sell air separation plants in the United States. Since Airco had no capacity itself to build cold boxes, and BOC had no marketing staff in this country, the arrangement seemed to offer promise for both companies. And so it was begun. To jump ahead of our story for a moment, the joint venture was a failure—it could not sell enough plants to be worth the trouble, and was abandoned by mutual consent in 1971. (A2471-75, A2709-10, A3682, A3750-3855, A4145-55)

While the Airco-BOC joint venture was continuing, BOC studied further involvement in the United States gases business—as part of an overall BOC effort to grow more international. But the reports of its staff people were pessimistic. Thus, a 1968 paper entitled "The Future Development of BOC as an International Concern" was negative with respect to expansion in gases, concluding that BOC "have not got much to exploit in North America . . . [and] have no major latent talents waiting unexploited to take us surging into . . . USA . . . ." (A5110-11)

A 1969 paper, assessing sectors of the U.S. economy as possible areas for BOC expansion, left industrial gases off the list entirely (A5120), saying: "It is unlikely that an effective strategy could be built around an objective of becoming a major American firm in any wide range of

gases and welding products . . . . Entry by direct venture, with virtually no existing base from which to build, is unlikely to be practicable.'' (A5118-19)

Not totally deterred by these staff papers, BOC's directors decided in late 1969 to make a careful on-site study of the American industrial gases market ''[t]o analyse the present and likely future situation in the American [industrial gases] market . . . to draw therefrom any lessons and experience which might have application [to] BOC . . . [and] subsequently [t]o consider whether there are any identifiable opportunities in USA which BOC might wish to exploit at some future date.'' (A5155)

BOC assigned the president of Canox, Allan Perham, and a London staff man, I.D. Greenfield, to make the study. Together they toured the United States, interviewing many people in the industry, plus bankers and consultants. In order to encourage free communication, they used a cover story: they were not studying United States operations with a view to possible entry, but only to see what lessons BOC might learn for use elsewhere. (A5153-55) The cover story was entirely successful; all of the people whom they interviewed talked with total (sometimes embarrassing) freedom. (*See* A5535-A5607) It apparently occurred to no one that they should be discreet in talking with a ''potential competitor''—evidently no one considered BOC in that role. (A5873-A5991 [narrative report]; A5535-A5607 [field notes])

Perham and Greenfield relied not only on their interviews, but also upon an extensive statistical study of the industry prepared by BOC. (A4011-4136) And, finally, they had access to an analysis independently prepared by the Boston consulting firm, Arthur D. Little, Inc. Pointing to the industry's high capital costs and the strength of

the firms already in the market, Little concluded: "there are stiffer barriers to the entry of strong new competition than there have been in the last 15 years." (A5561)

Perham and Greenfield embodied all of the information so obtained in a comprehensive report which they completed in February 1970. They concluded:

> "Based on the BOC requirement of 15% pretax return on capital employed *there is today no case for entering the USA industrial gas market* as a producer for either on-site supply or merchant requirements." (A5974) (emphasis added)

According to BOC's chairman, the Perham-Greenfield report "confirmed [the] existing belief which existed among all of the top management of the BOC Group . . . that there was no practical way of coming into the American market."* (A778, A858)

The report was adopted by the Chairman's Committee of BOC, its Board of Directors and by BOC International.** (A2463-64)

The acceptance of the Perham-Greenfield report ended BOC's direct interest in the U.S. industrial gases market,

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* The Commission's opinion would undercut this conclusion with its statement that BOC "by 1969 believed it should be represented in the United States, particularly in industrial gases" and that "only a strategy of what, how, when and where was lacking (CX 47)." (A880) This statement, which depends solely on CX 47, is less than straightforward, and we beseech the Court to look at the record. CX 47 demonstrates that in December 1969 BOC did believe that it should be represented in the United States, but not necessarily in the industrial gases business. (A4140) The reference in CX 47 was to a variety of product areas. The exhibit states only that BOC had decided to study the possibility of entry in industrial gases *first*. (*Ibid.*) That study resulted in the negative Perham-Greenfield report in February 1970.

** Prior to the change in name of The British Oxygen Company Ltd. to BOC International Ltd., BOC International, or BOCI, was an informal association consisting of BOC London executives and the top executives of four of its overseas subsidiaries, the Australian, South African, Indian and Canadian companies. (A2409)

for all practical purposes, until the Airco transaction. This conclusion is corroborated both by BOC's actions following the Perham-Greenfield report and by authoritative internal BOC documents.

In 1968, BOC had hired an American consultant, Dr. Albert Muller, to keep BOC in touch with U.S. developments in high technology areas and to obtain information for BOC regarding industrial gases. (A1570-72; A4281; A3897-3901) But in early 1970, following the Perham-Greenfield report, BOC terminated Dr. Muller's employment, telling him that it had decided to emphasize development in Europe over North America. (A1584; A1588)

In July 1970, a few months after Perham-Greenfield, BOC adopted long-range priorities and allocations of resources for its international development through 1973. These demonstrate that BOC then had no thought of entering the United States gases business—for the three years, there was allocated to Japan, South America and the United States combined, for all purposes, a total of $9.4 million. (A5992; A2465-69) As the Commission found, that sum did not include any funds for entering the United States industrial gases market. (A779, A858) Indeed, it could scarcely have done so: a single air separation plant costs from $7 to $16 million. (A878)

And in 1971, as we have seen, BOC severed its only connection with the U.S. industrial gas industry: it terminated the joint venture with Airco. (A3682; A2471-74; A2709-10; A4145-55)

We do not mean to suggest that, following Perham-Greenfield, BOC irrevocably turned its back on the United States gases business. As the Commission noted, the Perham-Greenfield report recognized the possibility that

unforeseen opportunities might arise in the future. (A5974) What BOC did do, however, was withdraw from all affirmative activity in the United States and turn its plans and budgets elsewhere, in the belief that there were no opportunities for it in the United States.

On two occasions after Perham-Greenfield, BOC was offered a seeming opportunity to enter the United States. But neither ever really reached the point of serious consideration, for neither was worth serious attention, and in one instance the seller was not really interested in selling.

These non-happenings, the Commission concluded, added up to a reasonably probable "eventual" happening. This seems to us strange logic: One who says "no" twice is not thereby demonstrated to be likely "eventually" to say "yes."

The first instance relied upon by the Commission involved Burdett of Cleveland, now Burdox. (A885) In April 1970, an investment banker approached BOC and advised that a fifty percent interest in Burdox was available. He noted candidly, however, that "[p]rofits are negligible and it would not . . . appear a very attractive proposition." (A4785) BOC responded:

> "There is a possibility, *albeit a small one,* that BOC could be interested in this company. . . . But an essential pre-condition of our taking this question any further would be that BOC could obtain control, and a control which would be maintained however the convertible debentures were manipulated.
>
> "There are, of course, very many other questions which would need to be gone into, but it seems to us that this one is a prerequisite, and we would be interested to know whether Messrs. Kuhn Loeb think that is

something they can deliver." (A4788) (emphasis added)

After learning that control was unavailable (A4789), BOC saw no point in even exploring the "very many other questions which would need to be gone into. . . ." (A4788) It wrote to the banker:

> "I do not think that our interest in Burdett is sufficient to warrant your taking any further action.
>
> "It may be that if there comes a major bust up we could be interested, and I am sure you will keep Kuhn Loeb alerted to such a possibility. But in the meantime, *I do not think it would be profitable for either of us to spend much time on this forlorn operation.*" (A4790) (emphasis added)

The other instance relied upon by the Commission relates to Burdett of Norristown (A885), a tiny gases company having shipments of industrial gases that it produces of about $1.5 million. (A1703-04; *see* BOC PF 289-90, A477-78)

In 1971, Mr. Perkins of this Burdett dropped in on BOC in London and, in the course of a conversation on unrelated subjects, made a spur-of-the-moment suggestion that BOC buy his firm and perhaps other small U.S. producers. BOC sent a man to take a look at Burdett's operation. It thereupon rejected the offer, writing: "We have no wish to be minor and vulnerable participants in a market and we do not see with sufficient certainty what strengths we would possess either in marketing or money terms." (A4292; A1730-33)

The Commission argues that BOC's consideration of the two Burdetts shows that the Perham-Greenfield report did not irrevocably close the door on the United States. We agree: The Commission is flailing away at a straw man.

We have never suggested that BOC closed any door as a result of Perham-Greenfield. The report itself—as the Commission noted (A885)—made no such recommendation. What we do suggest is that in the light of Perham-Greenfield, BOC could see no way to enter the U.S. gases market and so looked elsewhere. It remained willing to consider any U.S. opportunity, and it looked at whatever was offered —but only "forlorn" opportunities appeared. On these facts, we submit, no rational inference can be drawn that, but for Airco, BOC would have entered the United States.

And so matters stood in mid-1973, by which time BOC had become even more broadly diversified. It had begun operations in frozen foods, soft drinks, food distribution services and marketing of computer services. (*Compare* A3723, A3725 *with* A3618-19) And it still saw no reason to believe entry into the U.S. gases market was commercially feasible.

In July 1973, BOC prepared a five-year forecast of capital to be employed in the western hemisphere. (A5638) That projection anticipated an increase by 1978 over 1973 so small in relation to the $7-16 million cost of building an air separation plant that the projected increase is inconsistent with any suggestion that BOC planned to enter the U.S. industrial gases market. (*Compare* A5632, A5638, *with* A878) Instead, BOC's plans for future growth—plans reflected in its five-year forecast—mirrored its increased diversification. Most of the increase in capital was earmarked for investment in its food-related enterprises and its African and Australasian interests. (A5638)

The Acquisition of Airco Shares

This acquisition had its origins in mid-1973, at which time Airco's stock was selling at its lowest price in more

than five years—less than one-half book value. (A868; A3358-60)

In June 1973, BOC heard rumors of an impending tender offer for Airco stock, and a managing director of BOC discussed Airco's vulnerability to such an offer with an Airco vice president. (A868; A3312-13) Airco's management felt vulnerable to a hostile takeover bid. (A2794-95; A3359-60) Consequently, the president of Airco approached the chairman of BOC to discuss the possibility of some closer association between Airco and BOC. (A2477-78) The two companies agreed to study closer association; they set up working parties, and held a series of meetings during the summer and early fall of 1973. (A2478-79; A3318-19; A2734-38)

BOC's response to the Airco overture underscores the fact that BOC had turned its attention away from the U.S. gases market in the belief that there was no practical means of entering. A July 1973 paper presented to the BOC Board in connection with the proposed Airco investment pointed out that the investment was "[n]ot easily reconcilable with [BOC's] established aspirations to move into areas of faster growth potential than 'gas and gear'" nor with BOC's "expressed first priority for Europe in the greater internationalization of [its] activities, with the USA to be at best second equal with Japan." (A4216) The minutes of the BOC board meeting also noted that Airco would represent a departure from BOC's established policy of growth outside the United States (A4211), a policy adopted in recognition of the lack of any feasible means of entering the U.S. gases market (A2489-94). And contrary to the suggestion, implicit in the Commission's decision, that the economics of entry were of minor importance to BOC (A882,

A887-90), the BOC board paper took pains to weigh the economic attractiveness of an investment in Airco. (A4215)

So matters stood when, in November 1973, the Curtiss-Wright Corporation suddenly informed Airco that it was prepared to make a tender offer for two million Airco shares at $16-17. After considering the proposal and Curtiss-Wright, Airco's directors decided to oppose. On December 3, Curtiss-Wright made a public tender offer for 2.4 million shares at $18. Airco's board recommended that Airco's shareholders not accept, and asked them to wait to consider possible alternatives. (A3382; A868)

Shortly thereafter, BOC and Airco entered into an agreement in which Airco consented to BOC making a tender offer for 35% of Airco's shares. The agreement provided for reciprocal representation by BOC and Airco on each other's boards. Additionally, Airco would have first call, should BOC subsequently decide to sell any Airco shares it acquired. (A865, A868)

On December 10, 1973, BOC made a tender offer to buy up to four million shares of Airco—35%—at $20 per share. The offer was oversubscribed and BOC acquired the four million shares it sought at a cost of $80 million plus $2.8 million in expenses. Airco's board was enlarged from 12 to 16 directors to provide for four BOC representatives. (A869)

BOC overcame its reservations to make its tender offer for essentially one reason. As we stated at the outset, BOC long has regarded the United States as being of continuing interest for its size and its technology, but had turned its interests elsewhere in the belief that there was no commer-

cially sensible means of entry.* The Curtiss-Wright threat to Airco, coupled with the unusually low price of Airco shares, gave BOC what it had never foreseen—a means of entering on a significant scale which would produce a reasonable return on its investment. (A3328-30, A2483-88) The Airco situation therefore was both unique and quite unexpected.

In sum, the factual record here totally supports the testimony of BOC's chairman, Leslie Smith:

> "Q. . . . Had you not acquired a stock interest in Airco, would BOC have entered the American, United States, gases business in any way in the foreseeable future?
>
> [Colloquy Omitted]
>
> "Judge Barnes: You may answer, Mr. Smith. Do you recall the question?
>
> "The Witness: Yes. I cannot conceive any circumstances whatsoever that would bring BOC into the American market in the foreseeable future, barring Airco." (A2498, A2501)

* The Commission's opinion misleadingly suggests that entry into the U.S. gases industry in fact was a "long-term objective" of BOC. (A882) The quotation is taken out of context. BOC's chairman told BOC shareholders only that the Airco acquisition was evidence of management's determination to make BOC more international in scope. (A4814)

ARGUMENT

I

The Evidence Does Not Support the Conclusion that BOC Was Likely to Enter but for the Airco Transaction.

The heart of the FTC's case is a prediction—the prediction that BOC, had it not acquired an interest in Airco, probably would have entered the U.S. industrial gases industry de novo or via a toehold acquisition. That prediction, we submit, is wholly unjustified on this record.

The record contains almost no disputed issues of fact. This Court therefore is as able to consider the record as was the Commission. Fairly read, we submit, the record shows beyond any reasonable doubt that BOC did not at the time of the Airco transaction intend to enter the U.S. gases market in the foreseeable future. The record surely does not demonstrate that the market was so attractive and BOC's interest so great as to make entry likely despite BOC's prior refusals to enter the market and lack of any plans to do so. In short, to paraphrase Chief Justice Hughes, the record does not contain such "evidence as a reasonable mind might accept as adequate to support [the] conclusion" that BOC was likely to enter absent the Airco

opportunity. *Consolidated Edison Co.* v. *NLRB,* 305 U.S. 197, 229 (1938).

Since we are concerned here with an appraisal of what BOC would have done but for the Airco opportunity, it is perhaps appropriate to begin with the considerations that common sense tells us are relevant to determining whether someone—an individual, a corporation, or even a government—is likely to engage in some course of conduct. One such consideration, of course, is past conduct. Another is whether the possible course of conduct seems so attractive that it is likely to be chosen. A third is the stated intentions and plans of the entity.

In this case, all of these indicators point in the same direction. First, BOC's conduct over the last 75 years, and especially over the last six or eight, does not support the view that it was likely to enter the U.S. gases industry: It had not entered; it had declined all opportunities to enter; therefore it was not likely to enter. Second, the stated view of BOC—not only in testimony but in internal documents written *ante litem motem*—was that entry into the U.S. gases industry did not make commercial or practical sense, although undoubtedly there were attractions as well as disadvantages. Third, there was no evidence that entry into the U.S. gases industry was so extraordinarily attractive as to make it likely. Rather, the evidence showed that the barriers to de novo or toehold entry were so high as to make entry other than by a major acquisition most unlikely. The record below, therefore, does not support the proposition that BOC was a probable entrant.

A. BOC's Conduct

Perhaps the single most significant point concerning BOC's actions with respect to the U.S. industrial gases in-

dustry prior to the Airco acquisition is that *it did not enter*. This fact is so obvious as almost to escape notice, but it is critical. Virtually everything which the FTC regarded as showing a likelihood of entry by BOC after 1973 was as true five or ten or fifteen years ago as it was at the time of the hearing below. Thus, BOC has been an international company for decades, but it did not enter the United States gases market. There were prior opportunities to enter the U.S. gases market in one way or another, but BOC did not act on them. The growth rate of the U.S. gases industry was considerably greater in the 1950's and 1960's than it is expected to be in the future, yet BOC did not enter. Indeed, the evidence of record shows a course of conduct which, rather than suggesting that BOC saw the United States as an inevitable and essential area for expansion of its industrial gases business, points to just the opposite conclusion.

According to this record: In the years between 1967 and 1973, BOC took a hard look at the U.S. industrial gases industry and turned away (turning back only when the extraordinary Airco opportunity presented itself). It started and then terminated a joint venture with Airco in the air separation plant business. It hired and then terminated a consultant (Dr. Muller) who, in addition to performing many duties unrelated to the gases industry, provided BOC with information on the gases business. It detailed Perham and Greenfield, top executives, to do a comprehensive study of the United States gases industry—and in 1970 they concluded that there was no case to be made for BOC entering the market. It was approached by small U.S. companies offering to sell out to BOC—and it turned them down. It adopted priorities for investment

and a five-year budget which gave top priority to investment in other industries in other parts of the world—and budgeted no funds for investment in the U.S. gases industry. Indeed, when the Airco opportunity was presented to the BOC board in July 1973, the board noted that investment in Airco would be inconsistent with BOC's "established aspirations to move into areas of faster growth potential than 'gas and gear' " and with BOC's "expressed first priority for Europe in the greater internationalization of activities . . . ." (A4216)

The record therefore clearly shows that, at the time of the Airco acquisition, BOC had consistently rejected the possibility of entering the U.S. gases market. Lest we be misunderstood, we hasten to add that we do not for a moment suggest that the Perham-Greenfield report or any other BOC decision constituted an irrevocable commitment never to enter the U.S. market under any circumstances. Such a decision never was taken, and we doubt that any rational business would ever make such a decision. Rather, we contend only that BOC's past actions and attitudes toward investment in the U.S. industrial gases industry—all of which consistently rejected entry—are probative of its likely future behavior.

B. The "Attractions" of Entry—The Record Does Not Show that De Novo Entry Was Commercially Feasible.

As BOC's executives readily testified, the U.S. industrial gases market always was of interest to BOC from both technological and competitive standpoints. BOC long was "able" to enter the U.S. gases market in the sense that it knew the technology and had the resources. But while the Commission seems to have regarded the U.S. industrial

gases market as having some siren-like attraction for BOC, BOC never attempted a de novo entry. Indeed, so far as this record discloses, no firm has done so since the industry came of age with the development of tonnage plants in 1956.

The record not only reveals the reasons for this state of affairs, but shows that de novo entry by BOC—or anyone else—was virtually unthinkable. As the Commission found —with some understatement—"there are substantial barriers for entry into the industrial gases business." (A878) The barriers—including enormous capital costs, the need for simultaneous multi-plant entry in order to provide backup to customers, a network of long-term tonnage, distributor and merchant market supply contracts which would virtually limit a new entrant to new demand—are quite extraordinary.

Take first the capital cost. As we have seen, air separation plants cost from $7 million to $16 million, without even considering the heavy capital cost of distribution equipment such as storage tanks, trucks, rail cars and delivery facilities on customers' premises. Duplication of Airco's air separation plants alone—not to mention its distribution facilities and its production facilities for other gases —would have cost in excess of $218 million.

The contractual distribution arrangements in the industrial gases industry also would make entry quite difficult. Distributor contracts have terms of up to five years. Hence, a new entrant seeking to sell in the merchant market through distributors would face substantial contractual obstacles in building a distributor network. Merchant market customers also are under contract to the gases companies, with only about one-third of the contracts expiring annually. Thus a new entrant into the merchant market would ex-

perience difficulty here as well. And the tonnage market, of course, consists entirely of building new plants to serve particular customers, and a new entrant therefore could hope to capture only a part of any new demand for tonnage plants.

As a foreign firm lacking significant business interests or experience in the United States, BOC would face additional problems. Its lack of experience with U.S. finance and distribution methods, labor relations, and the like, would make entry more difficult for BOC than for a domestic firm. Moreover, it lacks the sort of corporate structure in the United States which could facilitate entry.

The profitability history of the U.S. gases industry—to the limited extent it appears of record*—demonstrates that the return on capital in the gases business has been comparatively poor. An internal Airco budget shows an after-tax return on total capital invested in its gases business which all would agree is quite low.** Data supplied by Union Carbide and Air Products, the industry's two largest firms, also revealed low figures: the composite return on

* The Commission improperly and erroneously interfered with BOC's efforts to demonstrate that the industry was not profitable. The ALJ barred cross-examination of the Commission's first industry witness concerning the profitability of the gases operations of his firm. (A1220-25) BOC, moreover, sought discovery from the Commission of statements by companies in the gases business indicating their rates of return for the gases aspects of their businesses. (A54, ¶24; A48, ¶1) While the ALJ granted BOC's motion, his decision was stayed pending interlocutory appeals. (A142; A1055; A223-77) The Commission modified his order to require that the statements be aggregated in order to prevent disclosure of the rates of return of individual firms. (A315-16) The aggregate data were not turned over to BOC until after the conclusion of the Commission's case-in-chief. (A317-18) Hence, the data were provided too late and in a form useless for cross-examination. On appeal from the Initial Decision, the Commission ignored this point.

** The figure appears in an *in camera* exhibit. (A5386)

investment in industrial gases for those firms did not exceed 3% during the period 1970 through 1972.* (A6003)

Given the extraordinary capital costs, the other barriers to and risks of entry, and the uncertain profitability record of this industry, there is no reason to believe that any reasonable businessman would have taken the enormous gamble inherent in de novo entry. The record fully bears out this assertion.

BOC's chairman, Leslie E. Smith, estimated that it would have cost BOC about $240 million and taken 10 years to enter the U.S. market de novo and to capture a viable share of the market, over 5%. (A2594-95) He said that he could not "conceive the circumstances in which [he] would have persuaded [his] board to expend that amount of money and take that amount of time and to have that deteriorating effect on [BOC's] return that they would have said yes." (A2595-96) Thus, while Mr. Smith conceded BOC's technical and financial ability to enter, he maintained that "commercial reasons ruled [BOC] out" of the U.S. market. (A2492)

Mr. Smith was not alone in testifying that de novo entry would have made no economic sense. Dr. Andrew Kridl, director of the Stanford Research Institute Center for Chemical Industry Economic Studies and an experienced evaluator of new ventures in the chemical industry (A2877-

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* The Commission sought to undermine the reliability of these figures by asserting that the return on investment "was calculated on the basis of 'gross fixed plants and equipment' not taking into account depreciation", an accounting practice which would understate the rate of return in a capital intensive industry. (A900 n. 27) While the *in camera* exhibit does include "gross fixed plants and equipment" in "investment", it does *not* state that the figures are not reduced by depreciation. (BOC RX 254, A6003) If the Court has any doubt on this score we request that it order the Commission to produce the documents underlying the *in camera* exhibit—which we have never seen—so that the matter may be determined.

81), testified that he would have recommended against de novo entry because the profit prospect was too uncertain. (A2964-66)

And, most significantly, the president of Chemetron's industrial gas division, called by complaint counsel, testified that he did not believe that BOC *could* enter the U.S. market de novo. (A1861-62)

Despite this evidence, the Commission's trial counsel made no effort to demonstrate that de novo entry would have made any economic sense. Not a single witness testified that he thought de novo entry by BOC was likely to be sufficiently profitable to make it commercially attractive. The Commission called no expert witnesses, although two Commission staff economists sat through the entire hearing below. In fact, in applying for a preliminary injunction in this matter in the District Court in Delaware, the Commission told the court that BOC had rejected de novo entry because "the entry barriers, as for instance the very high investment premium and the length of time to become established, militated against penetration of the industrial gas market on a *de novo* basis."*

The likely profitability of entry plainly is a key factor in determining whether a firm is likely to enter. Indeed, to conclude that a firm is likely to enter a market without hard evidence that entry is likely to be profitable is to blind oneself to the economic realities that shape business conduct. No rational businessman would undertake so formidable a venture as crossing an ocean on a major scale without satisfying himself that prospects for profit made the inevitable risks worth running. By the same token, the

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* Application for temporary restraining order and preliminary injunction, ¶¶18-19, verified by Gordon Youngwood, Esq., in *FTC* v. *British Oxygen Co.*, No. 74-31 (D. Del., filed Feb. 26, 1974).

FTC should not conclude that a firm was likely to enter the U.S. market without any hard evidence on that very issue.

The Supreme Court has made it plain that "the *economic* feasibility . . . of *de novo* entry" is a critical factor in determining the likelihood of future entry. *United States* v. *Marine Bancorporation,* 418 U.S. 602, 642 (1974) (emphasis added). In so holding, the Court cited with approval an article that put the issue as follows:

> "The question then is whether one of the parties (or a third party) would have been likely to enter into competition apart from the merger. In a free enterprise system the inducement to going into business is profit. The situation must be examined with a view to determining whether the alleged potential competitor would be lured into a new field of operation because it expected higher returns therein. . . . The pull of high profits is the rational motivation for entry into competition." Hale & Hale, *Potential Competition Under Section 7: The Supreme Court's Crystal Ball,* 1964 Sup. Ct. Rev. 171, 181-82, 185 (1964) (footnotes omitted), *cited in Marine Bancorporation, supra,* 418 U.S. at 625 n. 27.

Similarly, in considering whether both Pennsalt and Olin Mathieson were potential entrants into the target market, the Supreme Court noted that both "had the know-how and the capacity to enter [the] market *and could have done so individually at a reasonable profit.*" *United States* v. *Penn-Olin Chemical Co.,* 378 U.S. 158, 175 (1964) (emphasis added).

And in *United States* v. *Falstaff Brewing Corp.,* 332 F. Supp. 970, 972 (D. R.I. 1971), *rev'd on other grounds,* 410 U.S. 526 (1973), the District Court held that Falstaff was

not likely to enter the New England beer market, noting that none of the possible means of entry "would have effected a reasonable probability of a profitable entry for it into said . . . market." Accordingly, the court concluded that the Government had failed to establish by a fair preponderance of the evidence that Falstaff was likely to have entered the market.

The FTC's only nod in the direction of the need to show likely profitability was its assertion that prices had firmed by 1972, that there were some shortages of supply of atmospheric gases, and that the industry anticipated an annual growth rate of up to 10% over the next five years. (A888-89) Even if the Commission's conclusions are entirely accurate, they are hardly probative of whether de novo entry into the U.S. industrial gases business was likely to be sufficiently profitable to attract BOC.

First, profitability depends not only on prices, but on costs—and costs concededly were rising at least as fast as prices. (A1858-59)

Second, the addition of new capacity by a new entrant might well eliminate product shortages, drive down prices, and thereby eliminate any economic incentive for entry. *See* Turner, *Conglomerate Mergers and Section 7 of the Clayton Act,* 78 Harv. L. Rev. 1313, 1381 n. 88 (1965). This is particularly true here, as product shortages were very limited in size and geographic extent, and the profitability of the leading firms in the industry was marginal. While the Commission evidently assumed that these limited shortages would provide an economic incentive for entry, there is no evidence here that could possibly support this crucial assumption. Therefore, the fact that there were limited

shortages of some products in some areas, standing alone, proves nothing.

Particularly apt here, in view of the enormous costs of de novo entry and the Commission's failure even to attempt to show that it would have been economically attractive, are Judge Friendly's comments in *Missouri Portland Cement Co.* v. *Cargill, Inc., supra,* 498 F.2d 851. There the Court reversed a lower court finding that Cargill was a likely entrant stating:

> "The evidence against the feasibility of *de novo* entry by Cargill is overwhelming, and the district judge made no finding that this was an attractive possibility or that anyone inside or outside Cargill ever thought it was. Whatever the ultimate resolution of the differing views of Mr. Justice White and Mr. Justice Marshall on the weight to be given statements by management of the acquiring company, contrast 410 U.S. at 534-536 with *id.* at 563-570, here the objective evidence was wholly in accord with the views expressed by Cargill's management. An attempt to construct facilities similar to [Missouri Portland's] which Cargill hoped to acquire for $45,000,000 would cost up to $200,000,000." *Id.* at 863-64.

Here, as in *Missouri Portland,* the evidence against the feasibility—in commercial terms—of de novo entry is overwhelming. And here, as in *Missouri Portland,* there is no evidence that anyone inside or outside of BOC ever thought that it was an attractive possibility.

C. The "Attractions" of Entry—Toehold Acquisition Was Not Practicable.

The Commission concluded that entry by BOC by acquisition of Liquid Carbonic, Big Three or one of the small

producers was not only feasible, but likely.* The record is to the contrary: it shows that Liquid Carbonic and Big Three were not possible toeholds, and that acquisition of a smaller producer was as impracticable as de novo entry. Further, the Commission did not find that any attractive prospect was available for acquisition on any reasonable basis. It erroneously regarded such a showing as unnecessary. (A887)

1. Acquisition of Liquid Carbonic or Big Three Could Raise Serious Antitrust Issues.

Liquid Carbonic Corporation, a subsidiary of Houston Natural Gas Corporation, is far and away the leading firm in the carbon dioxide business, accounting for 35% to 40% of total shipments. (*E.g.*, A3569, A5436, A5584, A5564) *See generally United States* v. *General Dynamics Corp.*, 258 F. Supp. 36, 39 (S.D.N.Y. 1966).

Big Three Industries is a Texas-based gases, welding equipment and energy company. (A5055 *et seq.*) Its industrial gases operations are regional, being heavily focused in the Houston and Gulf Coast area. (A1233, A1852-53, A2492-93) It is the dominant industrial gases firm in its area, with a market share of over 50% in Houston and over 35% in the region as a whole. (A1852-53, A2492, A5562-63)

If BOC's acquisition of an interest in Airco may be attacked under Section 7 on the theory that BOC was likely to enter a nationwide U.S. gases market, acquisition of either Liquid Carbonic or Big Three would be subject to similar attack, albeit in more narrowly defined markets—carbon dioxide (Liquid Carbonic) or gases in the Houston-

* The Commission ruled out Chemetron and Liquid Air, as well as larger firms, as toehold candidates. (A888 n.18)

Gulf Coast area (Big Three). This rules out both companies as toehold candidates. As Judge Friendly said in *Missouri Portland*:

> "[W]e think [plaintiff] completely failed to demonstrate that attractive toe-hold prospects were available in the relevant geographic markets. *The plants cited as available means of entry into the defined markets are* either *already dominant in some other market* or owned by enormous national or international companies or poor prospects for the future."* 498 F.2d at 864 (emphasis added); *accord, id.* n. 2?.

The Commission dismissed the antitrust obstacles to acquisition of Liquid Carbonic and Big Three on the ground that their large market shares were either in a particular gas or in a regional market, while the relevant market *in this case* is the nationwide industrial gases market. (A887) This is not only inconsistent with this Court's decision in *Missouri Portland Cement,* but a *non sequitur* as well. It is clear beyond doubt that the Commission's reliance here on a nationwide industrial gases market would not preclude the Justice Department, a private litigant or even the Commission from asserting that carbon dioxide also is a relevant product market if BOC tried to acquire Liquid Carbonic or that Houston or the Gulf Coast region is a relevant geographic market if BOC tried to acquire Big Three. *See, e.g., United States* v. *Pabst Brewing Co.,* 384 U.S. 546, 550-52 (1966) (propriety of nationwide market does

* Liquid Carbonic, of course, is ruled out also because it is a subsidiary of Houston Natural Gas, and there was no indication of any inclination by HNG to sell. *Missouri Portland, supra,* 498 F.2d at 864. Nor did the Commission consider the difficulties which might confront a suitor for Big Three—an N.Y.S.E.-listed enterprise, the stock of which sold at 16.9 times earnings at the time of BOC's acquisition of Airco. (BOC PF 273, A471-72) No witness suggested that Big Three was available for acquisition. By contrast, Airco's price-earnings ratio was eight at the time of the acquisition. (A3358)

not preclude local market as well). Indeed, the Commission recognized as much in this very case when it stated:

> "There is no doubt that each of the individual gases listed in the complaint could constitute a separate product market since most gases have specialized end uses." (A871)

In light of *Missouri Portland Cement, supra,* 498 F.2d at 864, and the obvious possibility of narrower product and geographic markets than those relied upon here, the FTC erred in regarding Liquid Carbonic and Big Three as possible toehold candidates.

2. *Acquisition of Small Producers Would Be Equivalent to De Novo Entry.*

The facts relating to the small producers in the U.S. market are undisputed. With the exception of Burdett of Cleveland, none had sales of industrial gases as high as $5 million, and therefore none had a market share of even one percent. (A2494, A3005; *see* A1471-72, A4079-82) As far as the record discloses, none produces a full range of industrial gases. (BOC PF 287, 289-90, 297, A476-80; A 4079-82) The production facilities operated by them are often obsolete and—in an industry in which "[t]here are very decisive economies of scale" (A898)—smaller than make economic sense today.*

These characteristics of the small producers demonstrate that there would be no significant difference between entering the U.S. market de novo and entering it via such

* An air separation plant with a capacity of 250 tons per day is now necessary for economic operation. (A1338, A1363-64) Northern Gases, one of these small firms, has two plants having daily capacity of 80 and 25 tons. (A1652) The larger plant is 15 years old and was purchased secondhand from Air Products. (A3544-45) Another of these firms—Alabama Oxygen—has one 5-7 ton plant and one of 28-30 tons. (A1802)

an acquisition. (A2596-97, A2718) In either case, the new entrant would need to spend large sums on new production and distribution facilities in order to broaden the geographic scope and product line of the acquired firm. Expansion would be impeded by all of the other obstacles to de novo entry discussed above. Hence, there would be no advantage gained by acquiring one of these small companies.*

These and other considerations led almost every witness who addressed the issue to conclude that entry by acquisition of such firms did not make commercial sense.** (A2596-97, A2490-92, A2718, A2791-92, A2967-71; *see* A1861-62) Even Dr. Muller, the terminated BOC consultant called by complaint counsel, testified that he had recommended against toehold entry for BOC. (A1631)

This Court recently has held the toehold theory to be inapplicable to another basic industry for just these reasons. In *Missouri Portland Cement Co., supra,* 498 F.2d 851, the Court held that the plaintiff was bound to prove that attractive toehold prospects were available. *Id.* at

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* These factors distinguish the small firms in the industry from those the Commission has looked to as possible toeholds in other cases. In *Bendix Corp.*, 77 F.T.C. 731 (1970), *vacated on other grounds*, 450 F.2d 534 (6th Cir. 1971), the possible toeholds had market shares of 3.2% to 9.5% and were not shown to be technologically inferior. *Id.* at 821-24. Similarly, Ajax and Jaybee, the toehold candidates in *Stanley Works*, 78 F.T.C. 1023, 1972 (1971), *aff'd on other grounds*, 469 F.2d 498, 508-09 n. 24 (2d Cir. 1972), *cert. denied*, 412 U.S. 928 (1973), ranked third and fifth in the market with shares of 8.5% and 3.8%, respectively. *Id.*, 469 F.2d at 501 n. 7. (Shares are calculated on the basis of the $80 million universe figure in this Court's opinion. *Id.* at 500.)

** One witness, Mr. Baker of Air Products, testified that some of the independents, and Big Three, would be "attractive" acquisitions, assuming that they were willing to sell. (A3536, A3568) He never elaborated on what he meant by "attractive" and his assumption, as we shall see, was a large one indeed. Hence, his testimony is of little value. *United States* v. *Philadelphia National Bank*, 374 U.S. 321, 367 (1963).

864. It then rejected the contention that Cargill was likely to enter the cement industry via a toehold acquisition because de novo entry was not practical and toehold acquisitions offered no measurable advantage over de novo entry. Judge Friendly there stated:

> "The 'toe-hold' notion is rather difficult to understand as applied to a capital intensive industry where objective facts rule out de novo entry and the proposed entrant has no interest in entering unless it can obtain a significant market share. The cost of converting a small plant into a big one would probably be as great as, or perhaps greater than, that of building a new one. Toe-hold acquisition may therefore be meaningful in an industry like cement only if the new entrant could make a number of such acquisitions having capacity substantially equivalent to that of the larger company sought to be acquired." 498 F.2d at 864.

This analysis applies with full force here.

The Commission found that BOC was interested only in becoming a nationwide competitor. (F 47, A751-52, A854) And while the Commission argued that BOC could begin penetration of the U.S. market on a small scale (A887), a major premise of its opinion is that BOC's purpose in doing so would have been to expand the toehold into a national competitor. (A872, A887-88, *see* A901) But the small producers in the market are so tiny—all with market shares well under one percent—that the cost of expanding such a firm into a nationwide competitor would be substantially the same as de novo entry. Moreover, BOC could not have made a number of small "acquisitions having capacity substantially equivalent to that of" Airco. The Commission found top eight concentration to be 86.5% and Airco's market share to be 15.7%. (A874) Airco's market share,

therefore, could not be duplicated even if one acquired every remaining producer in the United States.

Mr. Justice Holmes once said: "[A] page of history is worth a volume of logic." *New York Trust Co.* v. *Eisner*, 256 U.S. 345, 349 (1921). And the suggestion that acquisition of one or more of these tiny firms was not a practical means of entering the U.S. market is supported by history as well as logic. In 1971, Burdett of Norristown, one of these small firms, approached BOC with a proposal that BOC acquire a group of these small producers. After considering the proposal, BOC rejected it:

> "There are two main reasons for this decision, which I trust you will understand. The first has to do with that longer term position in the U.S.A. which would face us in, say, five years after a successful pursuit of the lines proposed. We have no wish to be minor and vulnerable participants in a market and we do not see with sufficient certainty what strengths we would possess either in marketing or money terms. The second is the need in the immediate future to concentrate our focus on the new European opportunities which are already demanding much management time." (A4292)

Thus, BOC believed that even the successful acquisition of a group of these firms would leave BOC a "minor and vulnerable participant" in the market—not a strong nationwide competitor.*

While Burdett of Cleveland was somewhat larger than the rest of the independents, it plainly was not a likely

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* The Commission tried to buttress its position by reference to a BOC document which it reads as showing BOC's interest in such a series of acquisitions. (A887 n. 17) The Commission misreads. The document in question did not relate to the industrial gases industry. It discussed investment in some business which was "not capital intensive," and referred specifically to medical hardware, food services, and adhesives. (CX 38 at A3974-77) And it antedated BOC's rejection of the Burdett overture by more than two years. (A3972)

acquisition candidate. It had a limited geographic scope. (F 45, A751, A854) It made no money between 1969 and 1973, and it was heavily burdened with debt. (A5086-87, A5091) It had a long-term tonnage contract which obligated Burdett to supply product at less than capital cost. (A5585; *see* A2715-16) Dr. Muller, testifying for complaint counsel, said it "certainly was not an attractive situation." (A1603) And Dr. Kridl termed it "a financial disaster". (A2967-68) In these circumstances, BOC hardly was likely to acquire Burdett.

Ignoring this evidence—none of it is even mentioned in the Commission's opinion—the Commission concluded that BOC could and would have made a toehold entry because the French company, L'Air Liquide, had done so in 1968 by acquiring "a small regional firm", American Cryogenics. (A887)

The difference between the acquisition of American Cryogenics by L'Air Liquide (through a subsidiary, Liquid Air) and a possible future BOC acquisition of some other "toehold" is in the facts.

Basically, Liquid Air's entry occurred a number of years ago and the circumstances that made it possible no longer obtain.

In 1968, American Cryogenics was far larger than all but one of 1973's possible toeholds. It had sales of $20 million, $13.5 million of which were in industrial gases. (A1469) In 1973, only Burdett of Cleveland had comparable sales—and the record shows Burdett to have been far from an attractive opportunity. Moreover, Liquid Air had the prospect of substantially expanding American Cryogenics by additional substantial acquisitions—and it proceeded to do so. In 1969, it acquired Industrial Air Prod-

ucts, which had sales of $18 million, of which almost $8 million were of gases. And in 1972, Liquid Air acquired two more gases companies, with aggregate gases sales of about $9 million. (A1446-48, A1470) Thus, when Liquid Air entered, it could look forward to achieving a significant share of the market by a few additional acquisitions. But Liquid Air's acquisitions deprived others of any such opportunity by eliminating virtually all of the reasonably-sized firms.*

Hence, if BOC had wanted to enter by a toehold acquisition, it could have done so only with the knowledge that any significant growth must be via internal expansion—plainly a more difficult and uncertain route.

Thus Liquid Air's experience does not prove that BOC was "likely" to follow a similar course. Indeed, it does not even prove that BOC could have followed a similar course. As we have seen, no similar opportunities any longer exist.

3. *Availability*

It is rather difficult to understand the Commission's holding with respect to the availability of entry via toehold acquisition. The ALJ found that, at the time BOC acquired its Airco stock, there were specific small U.S.

* The financial circumstances of the American Cryogenics acquisition also were unique. Liquid Air acquired American Cryogenics for $6 million in promissory notes, and shares of preferred stock with an aggregate par value of $19 million—but which had no established market value. Liquid Air's estimate of the liquidation value of American Cryogenics' assets, however, was $20 million. (A1477-79) Thus, the risk to Liquid Air was minimal: had American Cryogenics gone under, Liquid Air would have been out $6 million in notes and preferred stock of uncertain value, but it would have had assets worth at least $20 million. There is no suggestion in this record that any such bargain was available to BOC in 1973—as we shall see, we were precluded from proving that there was not.

producers available for acquisition. (F 112, A780, A830) But the Commission vacated that finding, which we had attacked as unsupported by the evidence. (A858, A859, conclusion IF) Nevertheless, the Commission held that BOC was likely to enter via a toehold acquisition because "[t]he record indicates the existence of many small companies which could presumably be purchased ...." (A887) In so doing, the Commission rejected our argument that it must be shown that one or more of these firms was an attractive acquisition prospect and was available on sensible terms. (A887) Indeed, it adopted the ALJ's finding that "[t]he record does not establish whether [any of the possible toeholds] would be good investments or bad investments." (F 115, A781, A858)

We would think that would end the matter. The Commission, after all, had the burden of proving "that attractive toehold prospects were available". *Missouri Portland Cement Co., supra*, 498 F.2d at 864. *Accord, United States* v. *Atlantic Richfield Co.*, 297 F.Supp. 1061, 1069 (S.D.N.Y. 1969), *aff'd*. 401 U.S. 986 (1971). Where there is no showing that any possible toehold is commercially appealing, and where BOC has been barred from showing that there were no small companies available on reasonable terms,* it would scarcely seem possible to conclude that BOC would have been "likely" to acquire one or more of these firms. In a free enterprise world, after all, one is not "likely" to acquire companies which are not both attractive and sensibly priced.

The Commission believed, however, that real availability and real attractiveness are irrelevant: all that matters

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* When we attempted to cross-examine a witness from one of these small firms in an effort to demonstrate that the firm was not profitable and that it was available for acquisition—if at all—only on unrealistic terms, the ALJ barred the examination. (A1664-66) The Commission did not comment on this in ruling on our appeal.

is the existence of a few small firms, and there is no need to inquire into whether they are outrageously overpriced disaster areas.

Holding this view, the Commission not only misallocated the burden of proof on the critical issue here—that there were one or more toeholds available of sufficient attractiveness to make some acquisition by BOC "likely"—it went farther and stopped BOC from trying to demonstrate "unlikelihood".

In light of this Court's decision in *Missouri Portland*, the Commission cannot be permitted simply to assume BOC out of court on this issue.

D. BOC's Stated Intentions

So much for the objective record facts relating to the likelihood of toehold entry.

We now consider the testimony of BOC's top executives testifying that BOC did not intend to enter the U.S. industrial gases business; they could conceive of no circumstances that would cause BOC to enter in the foreseeable future other than by acquisition of an interest in Airco. That testimony is entitled to weight here, not because the men who gave it share our common tongue and have no criminal records, but because it is consistent with all of the other evidence in this extensive record.

It is clear beyond doubt, for example, that nowhere in the entire length of this record is there any evidence that BOC planned to enter the U.S. industrial gases industry in the future had it not acquired its interest in Airco. In fact, as we have seen, all of BOC's internal budgets and

documents show that BOC did not regard itself as well-equipped to enter the U.S. market, that it took no initiative in that direction after the Perham-Greenfield report, and that it budgeted no funds for that purpose.

We do not suggest, of course, that the testimony of BOC's officers is alone conclusive on the issue of what BOC was likely to do in the future. The Commission was quite right—in the abstract—in observing that managements and circumstances change and that "[e]ven a firm that has once firmly rejected . . . entry . . . may reconsider . . . ." (A890-91) But the issue here is not what *may* happen, but what is *likely* to happen. And where, as here, management convincingly demonstrates that it has not entered the market in the past for cogent reasons, that those reasons are fully consistent with evidence of market conditions and structure, and where there is no compelling reason to believe that those conditions will change remarkably in the future, management testimony is entitled to substantial weight.* It is, after all, an expert assessment of a complex economic problem by those most qualified to make it. *See, e.g.*, Note, *United States v. Falstaff Brewing Corporation, Potential Competition Re-examined*, 72 Mich. L. Rev. 837, 859 (1974). And that testimony—taken together with the documentary record, the enormous barriers to entry into the gases industry, and the lack of any evidence to suggest that those barriers will be lower in the future—indicate

* We of course are aware of the controversy surrounding the weight to be given to management testimony in cases such as this. *Compare Falstaff Brewing Corp., supra*, 410 U.S. at 534-36 (White, J.), *with id.* at 563-70 (Marshall, J., concurring). But as Judge Friendly noted in *Missouri Portland, supra*, 498 F.2d at 863-64, the controversy is of little moment where other evidence is consistent with management's testimony that it did not intend to enter absent a major acquisition. In such circumstances, the acquiring company cannot be regarded as an actual potential entrant.

that BOC was not likely to enter this market had it not acquired its interest in Airco.

E. A Synthesis: The Undisputed Evidence Shows that Entry Was Not Likely.

There is a great volume of undisputed evidence below which argues strongly against the view that BOC probably would have entered the U.S. industrial gases market de novo or by toehold acquisition had it not acquired its interest in Airco. Thus:

— Despite its long-term interest in the United States, BOC never attempted to enter the U.S. industrial gases business until the Airco opportunity arose.

— BOC carefully studied the U.S. gases market and concluded that there was no case to be made for entry.

— BOC's internal documents spanning the period from 1967 through 1973 and beyond show that BOC had no intention of entering the U.S. gases market in the foreseeable future.

— The barriers to de novo entry, as the Commission conceded, are extremely high — so high that BOC concluded that de novo entry was not commercially feasible. Although entry by BOC concededly was technologically possible, there was no evidence that it would have made any commercial sense, either in the past or in the foreseeable future.

— Entry by acquisition of a small producer would offer no advantage over de novo entry. The small producers in the U.S. gases market are insignificant in terms of their production facilities, geographical scope, and market shares. Acquisition of one of the three larger firms either would have been subject to

even more serious antitrust charges than the acquisition of Airco (Liquid Carbonic and Big Three) or would have been extremely unlikely because of the disastrous financial condition of the company (Burdett of Cleveland). Moreover, there was no showing that any possible toehold candidate was or is likely to be available for acquisition on reasonable terms.

The Commission disregarded all of this evidence. Some it disregarded because it applied erroneous legal standards, such as its holding that toehold entry is feasible as long as there exist firms smaller than the one acquired, irrespective of whether their acquisition would significantly advance entry, would be barred by the antitrust laws, or would be economically practical. Some it simply ignored, such as BOC's internal documents demonstrating that it had no intention of entering the U.S. gases market in the foreseeable future. But for whatever reason, the Commission chose to rely on a series of inferences rather than the undisputed evidence of record. The Commision based its decision:

> "on the fact that BOC had the clear incentive to enter the U.S. market; that it had the technological, and managerial expertise necessary to effectuate such entry as well as having large capital resources; that it earlier entered the Canadian market; that it in fact considered possible acquisitions of small American firms; and that demand for industrial gases in the U.S. was outstripping capacity in 1973-1974 with indications that this was a long-term trend . . . ." (A890)

Taken in context, however, none of these "facts" rationally leads to the conclusion that BOC was likely to enter. In most cases they lead to precisely the opposite conclusion.

BOC's Incentives for Entry. As BOC readily conceded below, the U.S. gases market has long been of interest to

BOC, primarily for two reasons: it is a source of technology, and it is the home base of two of BOC's international competitors, Union Carbide and Air Products. Thus, BOC long has had a general interest in being in the U.S. industrial gases market. Indeed, it was this general interest that prompted BOC to commission the Perham-Greenfield report, which concluded that there was no case for entering the market. But the indisputable fact is that, despite BOC's long-standing interest in having a significant place in the U.S. gases market, the exercise of its best business judgment resulted in the rejection year after year of every conceivable means of entry. The bottom line is that, since BOC's general interest in entering the United States never had brought about de novo or toehold entry in the past, its general interest was not likely to bring about such entry in the future, absent some drastic change in circumstances or a major acquisition such as Airco. *See* Note, 86 Harv. L. Rev. 772, 777 and n. 26 (1973).

BOC's Ability to Enter. BOC concededly has been technologically and financially able to enter the U.S. gases market for decades, in the sense of having the ability to build a plant and to offer the product for sale. Despite that ability, it never attempted de novo or toehold entry and did not plan to do so in the future. Thus, as the last 75 years demonstrate, having the ability and using it are two very different things.

Other Markets. The Commission's heavy reliance on BOC's 1949 entry into Canada is misplaced. The facts concerning BOC's Canadian venture are undisputed, and they point strongly to the view that BOC would not have attempted de novo or toehold entry into the United States.

BOC entered Canada de novo in 1949, before the advent of tonnage, in furtherance of its policy to establish

itself throughout the British Commonwealth. (A4265) The attempted de novo entry proved a failure: BOC's Canadian company, Canox, lost money for 12 years. (A3331-32) Canox then embarked on a series of acquisitions ultimately numbering approximately 20. (A4265) After 25 years of operation, Canox was still only a weak participant in the Canadian gases industry. It had only one small air separation plant—because it had never been able to capture sufficient business to justify building another plant or even expanding the one it had. (A2799, A3452-54, A2042, A2818-19) It manufactured only oxygen, nitrogen and acetylene. (A2799-2800) It had not secured a single tonnage contract. (A2803) It had gases sales of only $8 million per year, and its business was so dispersed that it was forced to buy most of its gases from its competitors. (A2798-2802)

BOC's Canadian experience therefore has been most unsatisfactory. Only after long years of operating losses was it able to build a marginally viable company. This experience, we submit, does not prove that BOC would be likely to make another such effort, especially in a highly competitive market such as the United States, where it would face such formidable competitors as Union Carbide, Air Products, Airco and Chemetron—none of which was in the Canadian market when BOC entered.

The FTC also made passing reference to the fact that BOC is in the gases business in 17 countries outside the United Kingdom. (A882) But again, the undisputed facts—far from showing that BOC's presence in these markets proves likely future entry into the United States—tend to show the reverse.

It is not national arrogance to note that the countries in which BOC is present are scarcely comparable to the

United States: Singapore, Australia, Hong Kong, South Africa, East Africa, India, Pakistan, Rhodesia, Fiji, the Philippines, Malaya, New Guinea, Canada, Italy, Indonesia, Brazil, Thailand and Bangladesh. (F 85, A766-67, A856; A2565) It cannot seriously be maintained that the fact that BOC built a gas plant in Fiji suggests a probability of an enormous investment in the United States to compete from scratch against such giants as Union Carbide. In any event, most of the list is ancient history, as all were entered before 1956 except Italy, Thailand, Indonesia and Brazil. (*Ibid.*) And the FTC's effort to suggest a comparability between BOC's entry into some of these countries and the United States—by referring to the former as "industrialized nations"—is disingenuous. In most of these cases, BOC entered decades ago, long before the industrial gases industry took on its present character and long before any of these nations was industrialized: Australia (1912), India (early 1900's), South Africa (1927), Pakistan (early 1900's). (A4264-69) And in no case did the Commission find that the conditions which attracted BOC to any of these foreign countries in the past are likely to be paralleled in the United States in the future—no inquiry was made into such matters below.

What really is significant about BOC's international investment in the gases industry is the places it has not entered—a fact ignored by the FTC. BOC is not in the gases business in major industrial nations of the non-Communist world—Germany, France, Japan, and, prior to Airco, the United States. Hence, the pattern of BOC's international investment in the gases business shows that in the first half of this century it expanded into non-industrialized British colonies; that its expansion since 1956—when the industry was transformed by the demand for tonnage

plants—has been minimal; and that when BOC attempted de novo entry into a relatively industrialized western nation—Canada—the result was most unsatisfactory. This simply does not add up to a likelihood of entry into the United States.

BOC's Consideration of Possible Acquisitions. The Commission relies heavily on the fact that, after the Perham-Greenfield report, BOC was contacted by Burdett of Cleveland and Burdett of Norristown with respect to the possibility that BOC might acquire these companies. (A885-86) The Commission regarded the fact that BOC even entertained the thought of making either acquisition as evidence that BOC was likely to enter the U.S. market. (*Ibid.*) The fact of course is that BOC rejected both proposals. (*Ibid.*) If these episodes suggest anything with respect to the likelihood of entry by BOC into the United States, it is a disinclination on BOC's part to engage in such a venture. The outcome of BOC's look at Burdett of Norristown, for example, was its rejection of toehold entry because BOC did not "wish to be minor and vulnerable participants in a market . . . ." (A4804)

Demand Trends. Finally, the Commission placed great stock in its conclusion that demand for industrial gases was expected to grow at a rate of up to 10% compounded annually in the 1974 to 1979 period and that product shortages had developed in mid-1973. (A889-90) Even if the Commission's statements were taken at face value, however, as long as they were taken in context, they would not demonstrate a probability of entry. Moreover, the statements are quite misleading.

A critical fact ignored by the Commission in its reliance on anticipated growth is the substantial decrease in the

industry's rate of growth as compared with the recent past. Even the Commission's optimistic projection of a growth rate of up to 10% per annum for the next five years is far lower than the enormous growth rate the industry experienced during the boom in tonnage plant construction and the U.S. space program in the 1950's and 1960's. (*Supra*, pp. 24-26; *see* A3505) BOC was just as able to enter the United States during those boom years as it is today. And since the high growth rates of the 50's and 60's were not sufficient to bring BOC into the United States market, there really is no rational reason to suppose that the lower growth rate projected for the future would be likely to do so.

This point is even more telling when considered in light of the decline in the value of the British pound. Since December 1973, the pound has fallen from $2.32 to $1.79.* The cost to BOC of entering the U.S. market therefore has risen markedly.

The Commission also ignored crucial undisputed evidence in its consideration of alleged shortages, which are best understood if considered separately as relating to the merchant market and the tonnage market.

All of the industry witnesses, including BOC's, agreed at the hearing that there were certain areas of the United States in mid-1973 in which there were shortages of atmospheric gases (oxygen, nitrogen and argon), although there was ample supply elsewhere. (*Supra*, p. 26) It was undisputed, however, that those shortages were very small in relation to demand—only one percent to two percent. (*Ibid.*) It also was undisputed that the existing U.S.

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* *N.Y. Times*, July 14, 1976, at 59, col. 7; *N.Y. Times*, Dec. 27, 1973, at 62, col. 7.

industrial gases companies by mid-1973 had announced and begun construction of new plants which were expected rapidly to eliminate these shortages. (*Ibid.*) Moreover, all agreed that there was no shortage of any of the other gases—indeed, there was excess capacity. Thus, the merchant market shortages referred to by the Commission were limited to atmospheric gases, were quite small, and were exceedingly transitory. Indeed, they almost certainly were the combined result of the overheating of the U.S. economy in 1973 and the adverse effect on investment caused by federal price control regulations. *See* A1870; C. GRAYSON, CONFESSION OF A PRICE CONTROLLER 205 (1974). In light of the substantial drop in industrial gases production since the hearing below (*supra,* p. 27) and the new plants already under construction at the time of the hearing, the shortages undoubtedly have disappeared. The record therefore, fairly read, does not show that the limited and temporary shortages in the merchant market would have justified a change in BOC's view of the long-term prospects for this industry. (A2509-15)

There was only one scrap of evidence below as to tonnage demand. Mr. Baker of Air Products testified that "the engineering and manufacturing capacity of the United States industry . . . is insufficient to respond to the large number of firm inquiries that the industry is faced with . . . as far as building [tonnage air separation] plants." (A3513) The Commission relied heavily on that testimony. (A889-90)

This hardly would justify an inference that BOC was likely to enter—even if taken at face value. But this testimony also presents one of those rare occasions when a

court is compelled to conclude that the agency erred in crediting a witness, because the witness' testimony contains its own refutation.*

First, Mr. Baker's suggestion that "the United States industry" was unable to meet the demand for tonnage plant construction was at best a half truth. Foreign companies —particularly German Linde (not to be confused with the Linde Division of Union Carbide), Messer Griesheim and L'Air Liquide—long have been engaged regularly in supplying tonnage plants to the U.S. market. (A1209-11, A1248; A2687-88, A2749; A2424-26, A2642-43) Indeed, only two U.S. gases firms—Union Carbide and Air Products—are capable of building tonnage plants. (A4069) And since there was no evidence that Union Carbide, Air Products and the foreign plant suppliers could not together satisfy demand for tonnage plants, the Commission could not fairly conclude that there was any shortage of plant building capacity from Mr. Baker's statement.

Even if demand for plant construction did exceed the abilities of the existing suppliers, one could not reasonably regard BOC as likely to enter the U.S. gases market. The tonnage market, after all, is essentially a market for building plants. Hence, the far more logical inference to be drawn if there were indeed a shortage of plant-building capacity would be that BOC might reenter the plant construction business—which it had already done in a joint venture with Airco, a joint venture that was abandoned for lack of business. But it did not enter the gases manufacturing industry in those years, and there is no reason

* We note in passing that the Commission was compelled to vacate the ALJ's finding that the economic growth rates of Brazil and the United States were comparable—a finding based solely on the same Mr. Baker's testimony—because Mr. Baker's testimony was patently incorrect. (F 110, A779; A858; *see* BOC's Appeal Brief to the Commission, Jan. 20, 1975, at 30-31 n. 3)

to suppose that it would do so in the future merely because there might be an opportunity to sell plants.

But there is a far more basic problem with Mr. Baker's testimony—it was proved false out of his own mouth on cross-examination by testimony which the Commission chose to ignore. There Mr. Baker was forced to admit that, despite his claim that the U.S. gases industry—*i.e.*, Union Carbide and Air Products—could not meet current demand for new plants, Air Products had turned down only *two* orders for tonnage plants. These orders were both from a major U.S. industrial gases company—a significant competitor of Air Products. And at least one of these orders was for a plant that the competitor needed to bid on a tonnage contract *with a customer that previously had dealt with Air Products.* (A3547-53; BOC RX 256, A6004) Mr. Baker did not suggest that his company ever turned down an order from any customer which was *not* a competitor—he never refused to fill an order from U.S. Steel or any other gases customer. These facts do not support his ready conclusion that a "large number" of plants were going unbuilt.*

In reviewing the Commission's decision, this Court must determine whether the conclusion that BOC was likely

* The Commission sought to corroborate Mr. Baker's testimony by taking official notice of a Commerce Department publication which observed that shipments of gases in 1974-75 would be limited by a lack of production capacity and that the new plants then under construction probably would not be completed in time to supply the then rising demand for gases in 1975. (A890 n. 20) But this publication does not rescue Mr. Baker or the Commission. The Commission's use of it is a comparison of apples with oranges: the publication plainly referred to merchant market shipments and production capacity for the merchant market; it had nothing whatever to do with demand for construction of new tonnage plants.

Moreover, the Commission's action in taking official notice of this publication in its decision, without first notifying BOC of its intention

(footnote continued on next page)

to enter, had it not acquired its interest in Airco, is supported by substantial evidence on the record considered as a whole. *E.g., Universal Camera Corp.* v. *NLRB*, 340 U.S. 474 (1951); *Snap-on Tools Corp.* v. *FTC*, 321 F.2d 825, 835 (7th Cir. 1963). It therefore must consider all of the undisputed evidence of record, not just the bits and pieces favorable to the Commission. And it must view the facts relied upon by the Commission in context rather than in isolation. As Professor Jaffe has put it:

> "Judicial review is designed, as has been said, to provide minimum assurance that there is record evidence which provides a rational or logical basis for the finding and for the consequent presumption that the finding was in fact the product of reasoning from evidence. This must mean evidence *in the case* and *in the context of the case.* To abstract out of a case that part of the evidence which can be made to support a conclusion is to imagine an abstract case, a case that was never tried. *A conclusion based on such abstracted evidence may be 'rational,' but it is not a rational decision of the case which was in fact tried.* Evidence which may be logically substantial in isolation may lose its logical relevance, even its claim to credibility, in context with other evidence. The rationality or substantiality of a conclusion can only be evaluated in the light of so much of the situation as is made to appear." L. Jaffe, Judicial Control of Administrative Action 601 (1965) (footnote omitted) (emphasis in original).

This record—viewed by these controlling standards—does not permit the conclusion that BOC was "reasonably

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to do so and affording an opportunity for rebuttal, violated the Administrative Procedure Act and the Due Process Clause. 5 U.S.C. §556(e); *NLRB* v. *Johnson*, 310 F.2d 550, 552 (6th Cir. 1962). This violation was highly prejudicial here, since the Commerce Department publication was issued in 1974 and its expectations for 1975 were disproved when the volume of shipments of gases in 1975 dropped sharply as compared with 1974. (*Supra*, p. 27)

likely" to enter the U.S. industrial gases market in a reasonable time had it not acquired an interest in Airco. Every one of the factors relied upon by the Commission —even taken in the light most favorable to the Commission —either supports BOC's position or is at least as readily susceptible of the inference that BOC would *not* have entered as of the opposite inference. Thus, the very most that conceivably can be said on the record below is that BOC was a *possible* entrant. But Section 7 deals with probabilities, not "with ephemeral possibilities"*—and, therefore, even if BOC were a possible entrant, this acquisition did not violate Section 7.

* *Brown Shoe Co.* v. *United States,* 370 U.S. 294, 323 (1962).

II

The Commission Applied an Incorrect Standard in Determining that BOC Was an Actual Potential Entrant.

We have proceeded thus far on the assumption that the Commission's conclusion that "there was a 'reasonable probability' that BOC would have eventually entered the . . . market" (A891)—if supported by the evidence—would warrant treating BOC as an actual potential entrant for purposes of the potential competition doctrine. The statute, however, requires more—it requires a reasonable probability that this acquisition will substantially lessen competition.

In order to conclude that an acquisition that eliminates a probable future entrant has eliminated a substantial future procompetitive effect, two predictions are necessary: (1) the probable entrant would enter the market by another means absent the acquisition in question, and (2) the entry would have substantial procompetitive effect. Thus, actual potential entry cases involve prediction both of the *fact* of a hypothetical future entry and of the probable *consequences* of such an entry. Unlike other Section 7

cases, therefore, they involve a double uncertainty.* *See* P. Areeda, Antitrust Analysis 665-66 (2d ed. 1974). Hence, if the statutory standard of a reasonable probability of a substantial lessening of competition is to be met, a firm should not be classified as an actual potential entrant unless there is clear and unequivocal proof that the firm in fact would have entered the market by another means in the imminent future.**

The difficulties and uncertainty created by the need for two predictions in actual potential entry cases—prediction both of entry and of its consequences—is well-illustrated by the judicial and academic dispute that has raged over whether statements of intention by management of the acquiring company ought to be considered on the issue of the likelihood of future entry. *See, generally, Missouri Portland Cement Co., supra,* 498 F.2d at 863-64. One faction would accord such statements considerable and even dispositive weight.† Another would reject them

* In horizontal and vertical Section 7 cases, the acquisition has occurred; the only prediction is of its likely consequences. Even in cases involving two branches of the potential competition doctrine, only one prediction is necessary: In fringe effect cases, the acquisition under attack removes the acquiring firm from the fringe of the market and the only prediction required is of the probable effect of that action; similarly, the only prediction involved in dominant entry cases is of the consequences once the acquisition has occurred. *Cf. Falstaff Brewing Corp., supra,* 410 U.S. at 558-60 (Marshall, J., concurring).

** This assumes that the elimination of the procompetitive effect of a future entry is a "lessening" of competition. In Point III we argue that it is not and that the actual potential entrant doctrine is not consistent with Section 7. The Court need not reach that issue, however, if it resolves the present point in BOC's favor.

† *See, e.g., Falstaff Brewing Corp., supra,* 410 U.S. at 532-36 (White, J.); *id.* at 575-76 (Rehnquist, J., dissenting); *Falstaff Brewing Corp., supra,* 332 F. Supp. 970 (D.R.I. 1971); Note, *United States v. Falstaff Brewing Corporation: Potential Competition Re-examined,* 72 Mich. L. Rev. 837, 859 (1974); Robinson, *Antitrust Developments: 1973,* 74 Colum. L. Rev. 163, 184-85 (1974).

as inherently subjective, self-serving and unreliable.* The latter group has argued that reliance should be placed instead on "objective" economic factors,** but a significant body of opinion regards such economic evidence as being fully as subjective as the most self-interested management testimony.† The inevitable conclusion, however, is this: While there are some standards for assessing the likely competitive consequences of changes in market structure, there is neither a systematic body of economic theory nor any other consistently reliable basis on which to make sound predictions of the degree of likelihood of future entry. Only where a "smoking gun" is found—a memorandum in the files of the acquiring company or some other hard evidence of a decision to enter—can it confidently be predicted that a firm really would enter the market otherwise if acquisition of a leading firm were barred.

The uncertainty in predicting the likelihood of future entry has led commentators and, it appears, the Supreme Court to conclude that acquisitions such as this should be barred, if at all, only where there is clear and unequivocal proof that the acquiring firm in fact would otherwise have entered de novo or by toehold acquisition.

Professor Turner has put the point as follows:

> "To sum up the discussion on this point, there is a rather modest case for prohibiting a merger between a firm that would clearly enter the market by internal expansion and a leading or growing established firm in a tight oligopoly; but this proposition rests on the

* *See, e.g., Falstaff Brewing Corp., supra,* 410 U.S. at 653-70 (Marshall, J., concurring).

** *Ibid.*

† *Falstaff Brewing Corp., supra,* 410 U.S. at 575-76 (Rehnquist, J., dissenting); Robinson, *Antitrust Developments: 1973,* 74 Colum. L. Rev. 163, 185 (1974); *see* Turner, *Conglomerate Mergers and Section 7 of the Clayton Act,* 78 Harv. L. Rev. 1313, 1383-84 (1965).

assumption that it is possible to formulate satisfactory tests for determining when entry would indeed have taken place by internal expansion had there been no merger. . . .

"By the nature of things, however, we cannot prove that entry via internal expansion was a certainty; we may not be able to say accurately that the evidence proves that entry was 'probable'. However convincing the evidence may be that entry by internal expansion would have been or is likely to remain 'economically sound,' there may be other equally or more attractive alternatives to which a firm now or in the future might have devoted its funds. Given the less than overwhelming case for prohibition to begin with, these additional doubts come close to annihilating it. *I therefore conclude that when the only alleged anticompetitive consequence of a merger is the elimination of what would have been a new entrant in a tight oligopoly, there must, in order to support prohibition, be clear proof that the firm would in fact have entered—an admittedly rare case,* and one bound to become even less frequent if this rule were adopted." Turner, *Conglomerate Mergers and Section 7 of the Clayton Act,* 78 Harv. L. Rev. 1313, 1383-84 (1965) (emphasis added).

The Supreme Court, as we noted at the outset, has not yet determined whether an acquisition which does no more than eliminate an actual potential entrant violates Section 7. *Marine Bancorporation, supra,* 418 U.S. at 625-26 and n. 28; *Falstaff Brewing Corp., supra,* 410 U.S. at 537. The Court has, however, indicated that, at the least, a high degree of proof would be required that entry would occur in the future.

In *Marine Bancorporation, supra,* the Court outlined the potential competition doctrine in part as follows:

"The potential-competition doctrine has been defined in major part by subsequent cases, particularly *United*

> *States* v. *Falstaff Brewing Corp.*, 410 U.S. 526 (1973). *Unequivocal proof that an acquiring firm actually would have entered de novo but for a merger is rarely available.* Thus, as *Falstaff* indicates, the principal focus of the doctrine is on the likely effects of the premerger position of the acquiring firm on the fringe of the target market. . . . In other words, the Court has interpreted §7 as encompassing what is commonly known as the 'wings effect'—the probability that the acquiring firm prompted premerger procompetitive effects within the target market by being perceived by the existing firms in that market as likely to enter de novo." 418 U.S. at 623-25 (emphasis added) (footnotes omitted).

Thus, the Court seems to feel that, in an actual potential entry case, "unequivocal proof" would be needed that the acquiring firm in fact would have entered but for the acquisition under attack.*

While the Supreme Court in *Marine Bancorporation* did not define "unequivocal proof," it is clear that the proof here meets no definition of the term.

First, whether "unequivocal proof" means subjective evidence that the acquiring firm in fact would have entered or merely an overwhelming economic showing that entry was inevitable, it does not exist in this record. The most that can be said for the record below is that a lengthy trial established what BOC conceded at the outset—that it was *possible,* though unlikely, that BOC might at some unspecified future time enter the U.S. gases market.

This point is driven home when one considers the nature of the proof relied upon below. BOC conceded its general interest in and technical ability to enter the U.S. market, so the real issue below was whether BOC would probably

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* The Commission found that there was no proof of the "wings effect" in this case. (A879 n. 8)

enter. On that issue, the Commission relied almost entirely on the uncorroborated testimony of competitors of Airco and BOC—*see, e.g.*, Mr. Baker, *supra*, pp. 71-73—on matters such as the probable future growth rate of the industry and supply-demand conditions. (*See* A888-90) While their testimony, even if credited, did not establish that the U.S. market was so attractive as to make entry probable, such interested testimony could not amount to "unequivocal proof" in any event as a matter of law. If, as Mr. Justice Marshall has argued, management testimony must be rejected as a matter of law as self-serving and therefore unreliable,* the same reasoning would require rejection as a matter of law of the testimony of competitors. *See Marine Bancorporation, supra*, 418 U.S. at 648 n. 2 (White, J. dissenting); *cf. Philadelphia National Bank, supra*, 374 U.S. at 366-67 and n.43. After all, a fundamental premise of the potential competition doctrine is that firms in a concentrated market will act to deter any action that would increase competition against them. *E.g.*, Berger & Peterson, *Conglomerate Mergers and Criteria for Defining Potential Entrants*, 15 ANTITRUST BULL. 489, 490 (1970); *Falstaff Brewing Corp., supra*, 410 U.S. at 532-37 (White, J.); *id.* at 559-60 (Marshall, J., concurring); *Marine Bancorporation, supra*, 418 U.S. at 624-25. Testimony against an acquisition such as this would be in the interest of the competitors of BOC and Airco only if they thought that Airco-BOC would be a stronger competitor than Airco alone and if they thought either that BOC was not likely to enter if it were forced to divest itself of Airco, or if they thought that entry by BOC would be of little significance. Thus, they are most likely to testify against the acquisition where its effect is likely to be procompetitive and where de novo entry probably would be unimportant. Testimony of competitors

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* *Falstaff Brewing Corp., supra,* 410 U.S. at 563-70 (Marshall, J., concurring).

—which could have the effect of barring entry by BOC—therefore is an unreliable foundation upon which to build.*

The FTC's decision on this point suffers from still another fatal flaw. The Commission's conclusion was "that as of December 1973, there was a 'reasonable probability' that BOC would have *eventually* entered the U.S. industrial gases market by internal expansion, or its equivalent, but for the acquisition of Airco . . . ." (A891) (emphasis added). But the Supreme Court has held that Section 7—while it deals with the future—is not utterly open-ended. The degree of uncertainty in any economic prediction becomes unacceptably high as it is projected farther and farther into the future. Hence, Section 7 deals not with the remote future, but with competition which is both "sufficiently probable and *imminent*". *United States* v. *Continental Can Co.,* 378 U.S. 441, 458 (1964) (emphasis added). And the FTC's conclusion that there was a reasonable probability that BOC "*eventually* would have entered" falls far short of this standard.

* This is hardly supposition. We already have demonstrated the questionable nature of the testimony by Air Products' Mr. Baker about tonnage plant demand. (*Supra,* pp. 71-73) Moreover, at the conclusion of the hearing—after Mr. Baker testified that Air Products anticipated a future growth rate of "approximately eight to 10 percent" per annum and that he regarded BOC as the most likely firm to enter the industrial gases industry (A1305, A3505)—BOC discovered and offered in evidence a paper presented by the planning coordinator of Air Products which predicted a substantially lower growth rate for oxygen and nitrogen than Mr. Baker's figure. And notwithstanding Mr. Baker's testimony about BOC being most likely to enter, Air Products' planning coordinator listed the seven existing "majors" in the U.S. industrial gases market and stated that: "Although there may be shifts in the relative rank, the same companies should continue to dominate the U.S. production of oxygen and nitrogen for the foreseeable future." (BOC RX 260, A5266-70) The ALJ however rejected the exhibit, in substance, on the ground that it was hearsay. (A324-25) In the circumstances, and given the Commission's rule which permits reception of exactly such hearsay (16 C.F.R. §3.43(b) (1976) ; *Phelps Dodge Refining Corp.* v. *FTC,* 139 F.2d 393 (2d Cir. 1943)), the ALJ's ruling was rather remarkable. The Commission, nonetheless, chose to rely on Mr. Baker.

III

The Question Reserved in *Falstaff* and *Marine Bancorporation* Should Be Resolved in BOC's Favor.

As we have noted, the Supreme Court has explicitly reserved decision on the question whether an acquisition which does not lessen existing competition can violate Section 7 because the acquiring company is thus precluded from adding to competition by entering by toehold or de novo.* In *Falstaff, supra,* the Court stated:

> "We leave for another day the question of the applicability of §7 to a merger that will leave competition in the marketplace exactly as it was, neither hurt nor helped, and that is challengeable under §7 only on grounds that the company could, but did not, enter *de novo* or through 'toe-hold' acquisition and that there is less competition than there would have been had entry been in such a manner." 410 U.S. at 537. *Accord, Marine Bancorporation, supra,* 418 U.S. at 625-26, 633.

This case squarely presents the question reserved in *Falstaff* and *Marine Bancorporation.* The Commission

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* All previous potential competition cases which have reached the Supreme Court have involved acquisitions which themselves reduced or threatened to reduce the pre-merger level of competition. In some cases, the acquiring company had been exerting a procompet-

(footnote continued on next page)

found no evidence that BOC's acquisition would harm today's competition. (A879 n. 8) It ruled against BOC solely on the ground that BOC was likely to enter de novo or through a toehold acquisition at some unspecified future time and that it saw no reason to view such entry "as lacking competitive significance" at that time. (A891, A901)

We ask this Court to reverse the Commission on the law and to answer the question reserved in *Falstaff* and *Marine Bancorporation* by holding that this acquisition is lawful irrespective of whether BOC arguably would have entered the United States gases market "eventually" in a more procompetitive manner had it not acquired its interest in Airco.

A. The Language of the Statute

Mr. Justice Frankfurter once quipped that, in construing a statute "when the legislative history is doubtful, go to the statute." *Greenwood* v. *United States*, 350 U.S. 366, 374 (1956). More recently, the Supreme Court repeatedly has emphasized that

> "[t]he starting point in every case involving construction of a statute is the language itself." *Blue Chip Stamps* v. *Manor Drug Stores*, 421 U.S. 723, 756 (1975)

itive influence on the market as a perceived potential entrant. Entry by acquisition eliminated this procompetitive influence and thereby reduced competition in the market. *See United States* v. *Penn-Olin Chemical Co.*, 378 U.S. 158, 174 (1964); *United States* v. *Continental Can Co.*, 378 U.S. 441, 462-63 (1964); *United States* v. *El Paso Natural Gas Co.*, 376 U.S. 651, 659 (1964). In other cases, an acquisition by a potential entrant threatened a reduction in the existing level of competition because the acquired company was so large and powerful and the acquired company already had such a leading position in the relevant market that the acquisition would have entrenched the acquired company's dominance. *Ford Motor Co.* v. *United States*, 405 U.S. 562 (1972); *FTC* v. *Procter & Gamble Co.*, 386 U.S. 568 (1967). *See generally Marine Bancorporation, supra*, 418 U.S. at 623 n. 23.

(Powell, J., concurring). *Accord, Ernst & Ernst* v. *Hochfelder,* 96 S.Ct. 1375, 1383 (1976).

Section 7 provides that an acquisition is unlawful where "the effect of such acquisition may be substantially to *lessen* competition, or to tend to create a monopoly." 15 U.S.C. §18 (emphasis added).

But the Commission did not hold that BOC's acquisition of an interest in Airco threatens to lessen competition. It held instead that, if BOC had not acquired its interest in Airco, it probably would one day have entered the market and *increased* competition. Thus, this acquisition does not offend the plain language of Section 7: BOC has merely opted for a course of action which may not increase competition to the extent the Commission would like. As Professor Rahl has said:

> "To treat an election not to augment competition as a lessening of competition is a neat trick . . . . It is, however, plainly not authorized by the language of the statute, nor by the philosophy of antitrust, which does not affirmatively seek to compel competition." Rahl, *Applicability of the Clayton Act to Potential Competition*, 12 ABA Section of Antitrust Law 128, 143 (1958).

B. The Legislative History

The legislative history confirms that the statute means what it says.

First, nothing in the legislative history suggests that the statute was intended to cover acquisitions "that will leave competition in the marketplace exactly as it was, neither hurt nor helped . . . ."* The statute's purpose was to halt the creation of holding companies or trusts, which

* *Falstaff Brewing Corp., supra,* 410 U.S. at 537.

strangled competition by acquiring and holding the stock of competing companies. *E.g.*, S. REP. No. 698, 63d Cong., 2d Sess. 13 (1914); 51 CONG. REC. 9086 (1914) (remarks of Rep. Mitchell); *see United States v. E.I. du Pont de Nemours & Co.*, 353 U.S. 586, 591 (1957).

The language of Section 7 as originally enacted in 1914* indicates clearly that it was not aimed at the "actual potential entrant." The statute provided:

> "That no corporation, engaged in commerce, shall acquire, directly or indirectly, the whole or any part of the stock . . . of another corporation engaged also in commerce, where the effect of such acquisition may be to substantially lessen competition between the corporation whose stock is so acquired and the corporation making the acquisition, or to restrain such commerce in any section or community, or tend to create a monopoly, of any line of commerce." 38 Stat. at 731-32.

Thus the original section did not apply unless the acquired and the acquiring companies were competitors—not potential competitors—or unless the acquisition was likely to restrain trade or create a monopoly. *E.I. du Pont de Nemours & Co., supra,* 353 U.S. at 590-92. Hence, the original language could not possibly have covered the actual potential entrant theory: the "substantially lessen competition" clause applied only where the acquiring and acquired corporations already were competitors, which by hypothesis is never true in actual potential entry cases.**

Second, the legislative history of the 1950 amendment to Section 7, the Celler-Kefauver Act,† also is devoid of

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* Act of Oct. 15, 1914, ch. 323, §7, 38 Stat. 730.

** The restraint of trade and monopoly clauses plainly were (and are) inapplicable.

† Act of Dec. 29, 1950, ch. 1184, 64 Stat. 1125.

anything suggesting that Congress intended to reach acquisitions such as this. While the Act removed the "acquired-acquiring" language from the statute, the purpose of doing so was to make it clear that Section 7 applied to all types of acquisitions which threatened to lessen existing competition, not to horizontal acquisitions alone. H.R. Rep. No. 1191, 81st Cong., 1st Sess. 11 (1949). The committee reports evidence no intention to deal with acquisitions the only effect of which is to eliminate possible *future* entrants. H.R. Rep. No. 1191, 81st Cong., 1st Sess. (1949); S. Rep. No. 1775, 81st Cong., 2d Sess. (1950).

The legislative history of Celler-Kefauver indicates that Congress did not regard the elimination of a possible future entrant as a "lessening" of competition. The report of the House Judiciary Committee discussed the type of anticompetitive effect which it intended to reach. It stated:

> "Acquisitions of stock or assets have a cumulative effect, and control of the market sufficient to constitute a violation of the Sherman Act may be achieved not in a single acquisition but as the result of a series of acquisitions. The bill is intended to permit intervention in such a cumulative process when the effect of an acquisition may be a *significant reduction in the vigor of competition,* even though this effect may not be so far-reaching as to amount to a combination in restraint of trade, create a monopoly, or constitute an attempt to monopolize. Such an effect may arise in various ways: such as elimination in whole or in material part of the competitive activity of an enterprise which has been a substantial factor in competition, increase in the relative size of the enterprise making the acquisition to such a point that its advantage over its competitors threatens to be decisive, undue reduction in the number of competing enterprises, or establishment of relationships between buyers and sellers which deprive their rivals of a fair

opportunity to compete." H.R. REP. No. 1191, 81st Cong., 1st Sess. 8 (1949) (emphasis added).

The Judiciary Committee report shows that Congress was concerned with acquisitions which themselves would bring about "a significant reduction in the vigor of competition"—to a point below that which previously obtained. It follows *a fortiori* that Congress did not intend to bar acquisitions "that will leave competition in the marketplace exactly as it was, neither hurt nor helped . . ."—merely to preserve the possibility that the acquiring company might some day take action that would substantially increase competition.

C. The Judicial Role

Still another consideration suggests that Section 7 should not be construed to apply to acquisitions such as this: such an interpretation, we respectfully submit, would involve the courts in tasks which are not their proper function and for which they are not well suited.

First, since the plain language of Section 7 does not apply, the Court would have to twist the Congressional language and go well beyond the stated purposes of Section 7 in order to apply the statute here.

We need hardly cite authority at length for the proposition that such judicial legislation would be an improper invasion of the Congressional function. *See, e.g., 62 Cases of Jam* v. *United States,* 340 U.S. 593, 600-01 (1951); *Iselin* v. *United States,* 270 U.S. 245, 251 (1926). It is particularly appropriate, however, to note that Congress warned against such judicial extension of this very statute when it enacted the Celler-Kefauver Act in 1950.

Among the primary purposes of Celler-Kefauver was the extension of Section 7 to acquisitions of assets, as well

as stock. Such an extension was necessary because the Supreme Court had held that, when the original statute forbade only stock acquisitions it meant what it said—acquisitions of assets were not forbidden. H.R. Rep. No. 1191, 81st Cong., 1st Sess., at 5 (1949). Opponents of the Celler-Kefauver bill argued that legislation was unnecessary because the Federal Trade Commission "could seek and obtain a reversal of the Supreme Court decisions which [had] hindered it in its enforcement of the law." *Id.* at 11. The House Judiciary Committee responded that rewriting Section 7 was a Congressional—not a judicial—function. It stated:

> "[T]he Commission has taken the position, and the committee believes rightly so, that any defect in the law, as interpreted by the Supreme Court, should be remedied through legislation rather than judicial action." *Ibid.*

So here. If Section 7 is to be extended to bar acquisitions by "actual potential entrants", the extension should be enacted by Congress.

Judicial self-restraint is particularly appropriate where extension of Section 7 to apply to cases such as this would require judges to attempt the near impossible: to determine whether, but for the acquisition, the acquiring firm would some day have entered the market and whether such an entry would have had substantial procompetitive effects.

In Points I and II we have suggested that determining whether a particular firm would one day have entered is little more than hypothetical guesswork.

In Point V, *infra,* we shall seek to demonstrate that predicting whether entry would have been likely to have substantial procompetitive effects is equally unreal. Unless

one knows exactly how, when, and on what scale the hypothetical future entry would have occurred, one cannot even begin to determine whether such an entry would have been procompetitive, much less "substantially" so.

These considerations make decisions in actual potential entry cases inherently unreliable. They turn the actual potential entry theory into a trap for acquiring companies by making the legality of an acquisition turn on exercises in hypothetical speculation. The courts are not so well equipped for such work as to reach out for it.

D. The Commission's Authorities Are Inapposite.

The Commission ruled against BOC on the question reserved in *Falstaff* and *Marine Bancorporation* essentially for two reasons. First, it saw no reason to depart from prior Commission and lower court decisions which it read as answering the question. Second, it said that *Procter & Gamble Co., supra*, 386 U.S. 568, really decided the matter. (A892-95) Neither ground is substantial.

Not binding here, the decisions relied upon by the Commission (A893 n. 23) are hardly persuasive. All antedate both *Falstaff* and *Marine Bancorporation* except *United States* v. *Phillips Petroleum Co.*, 367 F. Supp. 1226 (C.D. Cal. 1973), *aff'd without opinion*, 418 U.S. 906 (1974), and the Commission's own recent decisions in *Budd Co.*, 3 Trade Reg. Rep. ¶20,998 (FTC 1975), and *Beatrice Foods Co.*, 3 Trade Reg. Rep. ¶20,944 (FTC 1975). None considered the arguments that are here advanced.

Beatrice Foods and *Budd* contribute little but confusion. *Beatrice* noted the Supreme Court's careful reservations in *Falstaff* and *Marine Bancorporation*, but held that the Commission did not have to decide the question because Beatrice was not an actual potential entrant. 3 Trade Reg.

Rep. ¶20,944, at 20,790-92 and n. 6. Then, in *Budd,* the Commission misread its own decision in *Beatrice*: it said, in a dictum citing *Beatrice,* that it had "recently reaffirmed its view that elimination through merger of a likely procompetitive entry falls within the scope of Section 7". 3 Trade Reg. Rep. ¶20,998, at 20,856 n. 5. (As luck would have it, no one was hurt: the Commission held that Budd was not an actual potential entrant either. BOC was to be the first victim of the Commission's view.)

Phillips Petroleum is of no greater utility. The District Court struck down an acquisition illegal on a number of grounds and, in so doing, ignored the Court's reservation in *Falstaff* and simply assumed the answer to the question. 367 F. Supp. at 1234. In view of the many grounds available to support the trial court's result, the Supreme Court's affirmance without opinion is without significance here.

Hence, we are left with the Commission's *ipse dixit* as the only post-*Falstaff* authority for this major extension of Section 7.

The Commission's reliance on *Procter & Gamble Co., supra,* 386 U.S. 568, also is misplaced. For in *Falstaff*, the Court explicitly stated that *Procter & Gamble* did not decide the issue on which the Court was now reserving decision. 410 U.S. at 537.

This Court need not reach the question reserved in *Marine Bancorporation* and *Falstaff* unless it is unpersuaded by our Points I, II, IV and V. But if the Court does reach the reserved question, we urge the answer that BOC was not obligated to choose between not entering the U.S. market or entering in a manner satisfactory to the Commission—Section 7 casts no such burden.

IV

Potential Competition from BOC Is Unimportant to this Industry.

A few months after the Commission authorized the issuance of the complaint here, the Supreme Court handed down two decisions that finally gave authoritative guidance as to some of the rules applicable to potential competition cases, and to Section 7 cases in general.

First, the Court recognized that the doctrine of potential competition has little relevance to an industry that is already competitive. In *United States* v. *Marine Bancorporation, supra*, 418 U.S. 602, the Court specifically pointed out that the doctrine of potential competition applies only to an acquisition in a highly concentrated, non-competitive, oligopolistic market. *Id.* at 630-31.

Second, the Court took a step backward from the mechanical reliance on concentration statistics that previously had characterized Section 7 litigation. In *United States* v. *General Dynamics Corp.*, 415 U.S. 486, 496-504 (1974), the Court recognized that concentration ratios can be unreliable indicators of actual market behavior, and that

other aspects of industry structure may be more important in evaluating the competitive effects of an acquisition.

The Commission erred even in applying the doctrine of potential competition to the industrial gases industry because it misapplied the teachings of *Marine Bancorporation* and *General Dynamics*.

The undisputed evidence below showed that this industry lives with the most powerful check on market power imaginable—the ever-present threat that the industry's major customers, which rank among the largest industrial corporations in the world, will increase their already substantial production of gases if they become unhappy with prices charged by the gases companies. Thus, concentration ratios, which are no more than an indirect attempt to measure market power in any event, have little meaning in this industry.

The Commission's concentration data, moreover—for what little importance they may have—are grossly overstated, chiefly because the Commission failed to follow this Court's decision in *United States* v. *Aluminum Co. of America*, 148 F.2d 416 (2d Cir. 1945). The Commission computed the concentration of the industrial gases industry without considering the production of "captive plants"—plants owned by users of industrial gases rather than by industrial gases companies. When that production is considered as part of total production, as *Alcoa* requires, the concentration of the industrial gases industry is insufficient to warrant application of the doctrine of potential competition in any event.

Finally, the courts and the commentators are unanimous in the view that the elimination of a potential entrant has significance only where the acquiring firm was significantly

more likely to enter than other potential entrants. While the Commission here concluded that BOC was "uniquely" likely to enter (A883-84), it reached that conclusion only by applying different standards to BOC than to the other possible entrants. If consistent standards are applied, BOC was by no means unique. Indeed, by the tests applied by the Commission, a number of other firms were more likely to have entered than BOC.

In light of *General Dynamics*, *Marine Bancorporation*, and *Alcoa*, these factors would require dismissal of the complaint even if BOC were an actual potential entrant: the loss of BOC as an actual potential entrant would not have a substantial effect on this market.

A. The Threat of Future Upstream Integration by Customers Makes Concentration and Potential Competition Unimportant.

We have already seen that many back-integrated tonnage users of industrial gases own and operate tonnage plants to supply their own requirements. Indeed, 15 percent of the oxygen, much of the nitrogen and more than two-thirds of the hydrogen used in the United States is produced in such captive plants. (*Supra*, pp. 22-23)

The trend is toward increased captive production. The Census Bureau recently reported that the "[v]alue of industry shipments has shown slow growth, because an increasing quantity of gases is being produced captively." (BOC RX 208B, A5223) In particular, captive production of oxygen by the steel industry, its major user, is increasing rapidly.*

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* The Commission attempted to undercut the importance of captive production by asserting that the Perham-Greenfield report perceived no trend toward greater captive production. (A883 n. 13)

(footnote continued on next page)

The threat of increased production by large gases users is a fact of everyday life in the industrial gases business. The gases companies are well aware that tonnage users—primarily basic manufacturing industries such as steel, chemicals and petroleum—have the technical know-how and the financial resources to produce gases for their own use. A top executive of Union Carbide testified below that U.S. Steel, for example, operates four major air separation plants to supply some of its own mills, has the financial and technical ability to produce industrial gases in whatever volume it desires, and would have no difficulty obtaining the necessary equipment. (A1200-01) Many other firms share U.S. Steel's ability. (A1203-11, A1357-61, A1480-82, A1864-66, A2689-91, A2923-24)

Of equal significance are the industry's bidding practices on new tonnage plants. When a large user such as a steel or chemical company requires a new tonnage supply of gases, it typically will solicit bids for a long-term supply contract, and then compare the bids with the cost of purchasing a plant and operating it themselves—a simple matter because bids are also obtained from plant manufacturers. Thus, when the gases companies bid on a tonnage supply contract, they know that the customer is considering purchasing his own plant as an alternative—and the cus-

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Messrs. Perham and Greenfield would doubtless be flattered to have their opinion preferred to Census facts. But the Perham-Greenfield report was written in early 1970. Since then, the record shows a clear trend toward increased captive production, as noted by the Census Bureau. From 1968 to 1973, captive production of oxygen by steel companies rose from 15.2 to 34.1 billion cubic feet, an average annual increase of 25%. This compares to an average annual growth in total U.S. oxygen production of 10.6%, including captive production, from 1968 through 1972. (BOC PF 107 and Figure 4, A375-76)

tomer can and will do whichever makes better economic sense. (A2690-91; A2438-40; *see* A2983-84)

These considerations of course have a significant effect on pricing by the gases companies. Several witnesses testified—without contradiction—that the ability of major users to integrate upstream tends to drive the return on tonnage supply contracts toward the cost of capital used to build the plant. (A2691; A2944; A2919-20; A2438-40) As BOC's expert testified, the ready availability of upstream integration "places . . . a ceiling, an automatic ceiling [on] the price which the . . . suppliers of industrial gases for sale can charge the major user. If they attempt to charge any more [than] a reasonably low rate of return . . . it becomes automatically economical for the major users to integrate back to make their own." (A2944)

The foregoing evidence was entirely undisputed at the hearing. The Commission grudgingly conceded that "there may be some check placed on profit margins on tonnage supply contracts as a result of the threat of vertical integration . . ." (A901) Yet it regarded captive production as insignificant for three unacceptable reasons.

First, the Commission argued that upstream integration is unimportant because it is a realistic possibility only for certain gases. (A901) That is true, but it hardly shows backward integration to be insignificant. The gases for which backward integration is a significant factor are those produced in tonnage quantities—the atmospheric gases and hydrogen. (A901, A870) As the Commission itself noted, atmospheric gases alone accounted for more than 63% of the total value of all industrial gas shipments by primary producers in 1972. (A871-72) Hydrogen accounted for

almost 5% more. (A5213) Thus upstream integration limits prices in two-thirds of the business.

Second, the Commission maintained that large users of oxygen could not integrate backward because they would have higher unit costs than industrial gases companies. (A901) It premised this contention on the assumption that integrated users could not sell the nitrogen and argon which is co-produced with oxygen in the merchant market, as do the gases companies. (*Ibid.*) But the undisputed evidence demonstrates that integrated users in fact sell their excess product to both distributors and gases companies. (*Supra*, p. 23) Further, a 1968 Arthur D. Little study of the feasibility of U.S. Steel's entering the merchant market showed that U.S. Steel could readily dispose of captive nitrogen and argon. (BOC RX 58 at A5875-79 and *passim*) More basically, the Commission's argument neglects the fact that substantial vertical integration *already has taken place*. (*Supra*, pp. 22-23) Here, as elsewhere, reality destroys the Commission's speculation.

Finally, the Commission contends that backward integration "would have little effect on prices in the merchant market." (A901) It cites no evidence to support this hypothesis. The only evidence of record is directly to the contrary.

As we have seen, the record shows that gases sold in the merchant market often come from excess capacity added to large tonnage plants. (*Supra*, p. 20) Hence, tonnage users encouraged to integrate backward to supply their own needs will be at the same time tempted to produce for the merchant market—if prices are sufficiently high. Putting it another way, production for the merchant market by upstream integrators will tend to put a ceiling on merchant

prices. This is no empty theory: as noted above, some major users of gases presently sell excess captive product to industrial gases companies and to distributors. (*Supra,* p. 23) And a number of tonnage users have shown active interest in upstream integration to enter the merchant market. As we noted above, in 1968, U.S. Steel retained Arthur D. Little, Inc. to study the feasibility of entry into the merchant market in two areas—based on tonnage plants which U.S. Steel would purchase to supply its own operations. (BOC RX 58, A5866-A5972) Northern Natural Gas (not an industrial gases company) and Phillips Petroleum also have studied entry. Significantly, the fact that these studies were undertaken was known to the industrial gases companies. (A1267; A1358-60; A5586) And it is noteworthy that Arthur D. Little regarded entry into the merchant market by U.S. Steel as wholly feasible, if rather costly. Its report stated:

> "Based on the above conditions, there are no strong indications to believe that U.S. Steel could establish a dominant market position, nor is there any reason to believe you could not make a significant penetration into this market should you decide to become a merchant supplier. However, you would be one of four large producers vying for a position in the market with an additional 3-5 minor suppliers active. We therefore project that you could achieve a market share of between 15% and 25% in the region under consideration by virtue of your own efforts. However, due to the contractual and personal relationships that exist in the industry, it will take 3 to 4 years of a major selling effort to reach this level." (BOC RX 58N, A5879)

Back-integration into the merchant market, moreover, is an accomplished fact elsewhere in the world. Steel companies in Japan produce industrial gases for their own use and serve the merchant market as well. (A2524-27) Steel

companies are in the merchant market in Australia and South Africa via joint ventures. (A2522-24) There is simply no reason to believe that this would not occur here if merchant market prices rose above competitive levels.

Thus, the uncontradicted evidence demonstrates that the threat of upstream integration is real and has a real price-restraining effect on both tonnage and merchant prices. (A2945-48) The Commission's effort to theorize upstream integration into insignificance defies the facts. U.S. Steel may perhaps not be loved, but it must be acknowledged.

The effect of existing and threatened back integration has important ramifications here. It means that concentration ratios are unreliable indicators of market behavior in the gases industry and that the Commission therefore had not even a *prima facie* case for applying the potential competition doctrine. *General Dynamics Corp., supra,* 415 U.S. at 496-504; *Marine Bancorporation, supra,* 418 U.S. at 631.

B. The Commission's Concentration Data Are Inaccurate and Misleading.

1. Captive Production Was Improperly Excluded.

In determining the share of the market held by the four and eight largest firms, the Commission did not include the value of gases produced by firms other than industrial gases companies. (A874 n.4) Thus, the gases produced and consumed by vertically integrated users such as U.S. Steel were not treated as part of total production in determining the concentration of the industry. This excluded 15 percent of the oxygen, much of the nitrogen and more than

two-thirds of the hydrogen produced in the United States. (*Supra*, p. 23)

This results in a serious overstatement of concentration. Inclusion of captive production would reduce top four concentration to less than 56% and top eight concentration to under 69%.* These figures are below the level required to invoke the potential competition doctrine under the Merger Guidelines of the Department of Justice (1 TRADE REG. REP. ¶4510, at 6888) or, as we shall see, under the economic theory on which the doctrine is based.

The Commission sought to justify its exclusion of captive production on the ground that captive-produced gases do not compete in the marketplace with gases produced by the gases companies. (A876) This view fails to deal with the real significance of captive production. As we have seen, a company needing the output of a new tonnage plant has two alternatives: a long-term supply contract with a gases company, or outright plant purchase. Thus, every decision by a user to buy and operate its own tonnage plant reduces the demand for long-term supply contracts and represents a failure by the gases companies to compete successfully for a long-term contract—a failure of market power.

The basic purpose of computing concentration statistics, after all, is to estimate the market power of the leading firms in an industry. *See* Federal Trade Commission, *1976 FTC Budget Overview*, 692 BNA ATRR E-1, E-2 (Dec. 10, 1974). Since the ready alternative of captive production

* We cannot precisely determine concentration including the value of captive production because the Census data are incomplete. But even inclusion of the value of that portion of the captive production as to which there is evidence in the record would drastically reduce concentration ratios. The figures appear at pages 103-104, *infra*. Their derivation is set forth in the annex to this brief.

seriously limits the market power of the gases companies, the Commission's exclusion of captive production ignores competitive realities and exalts fictitious concentration.

In excluding captive production the Commission undervalued several decisions normally given some weight—and all of which included captive production in determining market shares and concentration.

Judge Learned Hand, speaking for this Court in *Alcoa*, held that the aluminum produced by Alcoa to supply its own manufacturing operations had to be included in measuring the overall aluminum ingot market and Alcoa's share. *United States* v. *Aluminum Co. of America,* 148 F.2d 416, 424 (2d Cir. 1945). Judge Hand said:

> "There are various ways of computing 'Alcoa's' control of the aluminum market—as distinct from its production—depending upon what one regards as competing in that market. The judge figured its share—during the years 1929-1938, inclusive—as only about thirty-three percent; to do so he included 'secondary,' and excluded that part of 'Alcoa's' own production which it fabricated and did not therefore sell as ingot. If, on the other hand, 'Alcoa's' total production, fabricated and sold, be included, and balanced against the sum of imported 'virgin' and 'secondary,' its share of the market was in the neighborhood of sixty-four percent for that period. The percentage we have already mentioned—over ninety—results only if we both include all 'Alcoa's' production and exclude 'secondary.' That percentage is enough to constitute a monopoly; it is doubtful whether sixty or sixty-four percent would be enough; and certainly thirty-three percent is not. Hence it is necessary to settle what he shall treat as competing in the ingot market. That part of its production which 'Alcoa' itself fabricates, does not of course ever reach the market as ingot; and we recog-

nize that it is only when a restriction of production either inevitably affects prices, or is intended to do so, that it violates §1 of the Act. *Apex Hosiery Co.* v. *Leader,* 310 U.S. 469, 501, 60 S.Ct. 982, 84 L. Ed. 1311, 128 A.L.R. 1044. However, even though we were to assume that a monopoly is unlawful under §2 only in case it controls prices, the ingot fabricated by 'Alcoa,' necessarily had a direct effect upon the ingot market. All ingot—with trifling exceptions—is used to fabricate intermediate, or end, products; and therefore all intermediate, or end, products which 'Alcoa' fabricates and sells, pro tanto reduce the demand for ingot itself. The situation is the same, though reversed, as in *Standard Oil Co.* v. *United States,* 221 U.S. 1, 77, 31 S.Ct. 502, 523, 55 L.Ed. 619, 34 L.R.A., N.S., 834, Ann. Cas. 1912D, 734, where the court answered the defendants' argument that they had no control over the crude oil by saying that 'as substantial power over the crude product was the inevitable result of the absolute control which existed over the refined product, the monopolization of the one carried with it the power to control the other.' We cannot therefore agree that the computation of the percentage of 'Alcoa's' control over the ingot market should not include the whole of its ingot production.''

The rationale of *Alcoa* is fully applicable here. Captive production reduces the demand for industrial gases produced by the gases companies. It is beyond the control of the gases companies. Hence, it must be included if concentration in this industry is to be any kind of meaningful measure of market power.* *Accord, International Tele-*

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* Since *Alcoa,* the necessity of including captive production in determining concentration often has been taken for granted—even by the Commission. Thus, in *Kennecott Copper Corp.,* 78 F.T.C. 744 (1971), *aff'd,* 467 F.2d 67 (10th Cir. 1972), *cert. denied,* 416 U.S. 909 (1974), the Commission included the production of captive producers in determining the concentration of the coal industry for purposes of evaluating a potential competition claim. 78 F.T.C. at 795

(footnote continued on next page)

phone & Telegraph Co. v. *General Telephone & Electronics Corp.*, 518 F.2d 913, 930-32 (9th Cir. 1975).

The Commission sought to distinguish *Alcoa* on the ground that Alcoa was an integrated producer of ingot aluminum and a fabricator of aluminum products and therefore was able to use its captive production to impose a cost-price squeeze on its non-integrated fabricator competitors. (A876) Learned Hand may not so readily be put aside. While the cost-price squeeze was an important element of Alcoa's *conduct* relied upon in the monopolization case against it, the squeeze had nothing to do with Judge Hand's definition of the market or the calculation of Alcoa's market share. The Commission's attempted distinction fails.*

Contrary to the Commission's suggestion (A876), inclusion of the value of captive production would markedly alter the concentration and market share figures. While complete data on captive production are not available, a

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(Initial Decision), 935-37 (Commission Decision). And in *Bethlehem Steel*, another Section 7 case, Judge Weinfeld found Ford Motor, which owns its own steel mill, to be the nation's twelfth largest steel producer, and took account of its production in appraising the proposed merger of Bethlehem Steel and Youngstown Sheet & Tube. *United States* v. *Bethlehem Steel Corp.*, 168 F. Supp. 576, 584-85, 603-05 (S.D.N.Y. 1958).

* The other cases relied upon by the Commission—*United States* v. *Greater Buffalo Press, Inc.*, 327 F.Supp. 305 (W.D.N.Y. 1970), *rev'd on other grounds*, 402 U.S. 549 (1971), and *Avnet, Inc.*, 82 F.T.C. 391 (1973), *aff'd without consideration of the point*, 511 F.2d 70 (7th Cir.), *cert. denied*, 96 S.Ct. 56 (1975)—are not authoritative in light of *Alcoa* and in any event involved industries markedly different from industrial gases.

most conservative estimate would yield the following results for 1972:

Company	*Value of Shipments ($000's)*	*Source*	*Market Share*
Union Carbide	$153,000	(A874)	20.4%
Air Products	106,976	(A874)	14.3%
Airco	93,577	(A874)	12.5%
Chemetron	60,496	(A874)	8.1%
Liquid Air	33,500	(A874)	4.5%
Liquid Carbonic	29,651	(A874)	4.0%
Big Three	24,699	(A874)	3.3%
Burdett (Cleveland)	12,680	(A874)	1.7%
Top eight concentration	$514,579		
Total value of shipments by primary producers	$595,000	(A874)	
Partial estimated value of captive production	154,800*		20.6%
Total	$749,800		
Top four concentration	$414,049		55.2%
Top eight concentration	$514,579		68.6%

Hence, inclusion of the value of even a portion of captive production would reduce top four concentration from the 70% found by the Commission to less than 56% and top eight concentration from the 86.5% found by the Commission to less than 69%.

2. *The Commission's Erroneous Total Shipment's Figure.*

In 1972, the total value of shipments of industrial gases by *all* producers was $649 million. (F61, A758-59, A855;

* The annex to this brief sets forth the computation of this figure.

A4863, A4865) The total value of shipments *by plants classified in the industrial gases industry* was only $595 million. (*Ibid.*)

In computing concentration and market shares the Commission used the $595 million figure (A874), thereby ignoring shipments of industrial gases by plants classified in other industries.

The difference between these two figures stems from the two methods of compiling economic data used by the Census Bureau—the industry classification method and the product classification method. As one economist has explained:

> "A plant, or in the Census terminology, an 'establishment,' is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of any other product. The *primary product* of a plant is defined as that product which accounts for the greatest portion of the total dollar value of shipments from a plant. The *secondary products* of a plant are its remaining products.
>
> "The Census Bureau publishes manufacturing data on the basis of two overlapping classification concepts, the industry and the product. The *industry concept* combines the primary and secondary shipments of a plant and assigns them to the industry in which the plant is primarily engaged.
>
> * * *
>
> "The Bureau of the Census also follows a *product concept* in which the shipments of each product are classified in the industry to which that product primarily belongs." E. Singer, Antitrust Economics 156-57 (1968).

The industry classification figure—$595 million—therefore includes the value of shipments of industrial gases *and all other products* shipped by plants the primary product of

which is industrial gases. It excludes, however, the value of industrial gases shipped by plants the primary product of which is not industrial gases.

The product classification figure—$649 million—includes all shipments of industrial gases, regardless of whether gases are the primary product of the plant in which they are produced.

The purpose of measuring the concentration of the industrial gases industry in this case, as we have seen, is to determine in a most imperfect way whether the leading industrial gases companies possess market power. (*Supra*, p. 93) Since *all* industrial gases shipped in the United States—not just those produced in plants the primary product of which is industrial gases—compete, *all* shipments must be considered in measuring concentration, for any other method will overstate the influence the gases companies have in the market. Hence, the $649 million figure, rather than the $595 million figure, should have been used. *See Aluminum Co. of America, supra*, 148 F.2d at 424.

The higher figure makes a significant difference in concentration. If the estimated value of captive production and all shipments of gases are included in the universe of industrial gases production, the total value of gases production in 1972 was over $803.8 million rather than $595 million found by the Commission. This reduces top eight concentration to less than 64%. Thus, top eight concentration would be far below the 86% found by the Commission. (A874) As we demonstrate below, this is a material difference.

3. *The Effect of Using Proper Concentration Figures.*

If concentration in the industrial gases industry is computed on the basis of a universe including all production

of industrial gases, captive and non-captive, top eight concentration is less than 64%.

In *Marine Bancorporation, supra,* 418 U.S. 602, the Supreme Court established a two-part test for determining whether the potential competition doctrine may be applied to an industry. It held that, "by introducing evidence of concentration ratios of [sufficient] magnitude . . . the Government [may establish] a *prima facie* case that the . . . market [is] a candidate for the potential competition doctrine." *Id.* at 631. In the event the Government establishes a *prima facie* case by proof of sufficient concentration, the respondents may rebut that showing by demonstrating that "the concentration ratios, which can be unreliable indicators of actual market behavior, *see United States* v. *General Dynamics Corporation,* 415 U.S. 486 (1974), [do] not accurately depict the economic characteristics of the . . . market." *Ibid.*

We have already argued that existing and threatened upstream integration by major users makes concentration ratios "unreliable indicators of actual market behavior," and therefore that the elimination of potential entry by BOC is immaterial in this industry. Here, however, we go farther—we submit that, on any measure of concentration in this industry, save only the erroneous measure adopted below, the Commission failed even to establish a *prima facie* case for the potential competition doctrine. The true concentration of this industry is not of "sufficient magnitude"—to paraphrase *Marine Bancorporation*—to warrant the doctrine's application.

Neither the Supreme Court nor the lower courts have yet addressed the question of the level of concentration necessary to satisfy the government's burden of proving a

prima facie case. The Commission ignored this issue below. Nevertheless, conclusions may be drawn from economic studies underlying the law in this area, as well as from potential competition cases decided to date.

One of the cornerstones of economic theory underlying antitrust law is the hypothesis that a monopolist or an oligopolist will charge higher prices and produce less output than would competitors in a truly competitive market. D. Watson, Price Theory and Its Uses 368-69, 445-46 (3d ed. 1972). A corollary is that a sympton of monopoly or oligopoly is unusually high profit over the long run. J. Bain, Price Theory 203-05, 340 (1952); C. Kaysen & D. Turner, Antitrust Policy 15 (1959); E. Mason, Economic Concentration and the Monopoly Problem 368 (1957); *see United States* v. *Aluminum Co. of America*, 148 F.2d 416, 426-27 (2d Cir. 1945). Hence, in seeking a level of concentration the existence of which should trigger application of the doctrine of potential competition, absent evidence that the market is genuinely competitive, one should choose a concentration ratio associated with high levels of profitability. This at least would be some indication that the concentration ratio chosen might bear some relationship to the goals of the antitrust laws.*

Professor Bain, whose work has been relied upon repeatedly by the courts and the Commission, especially in defining and applying the doctrine of potential competi-

* The premise that there is a relationship between market structure, as described by concentration ratios, and market performance has been attacked sharply by some economists. *See, e.g.*, H. Goldschmid, H. Mann & J. Weston, Industrial Concentration: The New Learning c. 4 (1974). While the Supreme Court in *Marine Bancorporation, supra*, 418 U.S. 602, adopts the premise that such a relationship exists for the purpose of permitting the Government to establish a *prima facie* case for the applicability of the potential competition doctrine, it is important to recognize that this assumption is

(footnote continued on next page)

tion,* has studied the relationship between profits and concentration. He found "no conclusive indication of any closely observed linear relationship of industry concentration to profit rates." However, he stated:

> "[T]he positive conclusion which does emerge is that there is a rather distinct break in average profit-rate showing at the 70 percent concentration line [for the eight largest firms], and that there is a significant difference in the average of industry average profit rates above and below this line." Bain, *Relation of Profit Rate to Industry Concentration: American Manufacturing, 1936-40*, 65 QTRLY. J. ECON. 293, 314 (1951). *Accord*, J. BAIN, BARRIERS TO NEW COMPETITION 191 (1956).

Bain's findings have been confirmed by several subsequent studies.** In a study of concentration and rates of return in 30 industries for the period 1950-60, H.M. Mann found "that there is a distinct cleavage between the average profit rates of two groups of industries, divided according to whether the concentration ratio for the top eight firms is greater or less than 70 per cent." Mann, *Seller Concentration, Barriers to Entry, and Rates of Return in Thirty Industries, 1950-60*, 48 REV. OF ECON. &

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still another source of uncertainty inherent in the actual potential entrant theory. For if the presence or absence of one additional firm makes no significant difference in the performance of a concentrated market, the actual potential entrant theory is based on an invalid premise.

* *United States* v. *Marine Bancorporation, supra*, 418 U.S. at 628 n. 32; *FTC* v. *Procter & Gamble Co., supra*, 386 U.S. at 586 n. 4 (Harlan, J., concurring); *Stanley Works* v. *FTC, supra*, 469 F.2d at 503 n. 10; *Procter & Gamble Co., supra*, 63 F.T.C. at 1549 n. 19; *see also United States* v. *Philadelphia National Bank*, 374 U.S. 321, 363 n. 39 (1963); *United States* v. *E. I. du Pont de Nemours & Co.*, 351 U.S. 377, 400 n. 28 (1956).

** There is, however, a body of economic thought which rejects not only Bain's specific findings, but, as noted, the premise that concentration is inconsistent with a competitive market. *See generally* H. GOLDSCHMID, H. MANN & J. WESTON, INDUSTRIAL CONCENTRATION: THE NEW LEARNING c. 4 (1974).

Statistics 296, 298 (1966). *Accord,* Collins & Preston, Concentration and Price-Cost Margins in Manufacturing Industries 33 (1968).

These economic studies suggest that the degree of concentration that should be required in order to establish the *prima facie* case spoken of by the Supreme Court in *Marine Bancorporation* is 70 percent for the top eight firms—since it is that level of concentration which economists have found associated with particularly high levels of profits. Choice of this figure, moreover, would have the virtue of consistency with all of the potential competition cases decided by the Supreme Court to date, all of which involved levels of concentration markedly higher than that present in the industrial gas industry, as demonstrated by the following chart:

Potential Competition Cases Decided by the Supreme Court

Percent of Market Accounted for by Firms in the Target Market

	two largest	*three largest*	*four largest*	*six largest*	*seven largest*	*eight largest*
Marine Bancorp.[1]		92%				
Falstaff[2]			61%			81%
Ford-Autolite[3]		96%				
Clorox[4]	65%			80%		
Phillips Petroleum[5]			61%		83%	
Penn-Olin[6]	over 90%	over 99%				

1. *Marine Bancorporation, supra,* 418 U.S. at 631.

2. *Falstaff Brewing Corp., supra,* 410 U.S. at 527-528.

3. *Ford Motor Co.* v. *United States,* 405 U.S. 562 (1972), *aff'g,* 286 F. Supp. 407, 419 n. 25, 435 (E.D. Mich. 1968).

4. *FTC* v. *Procter & Gamble Co., supra,* 386 U.S. at 571.

5. *United States* v. *Phillips Petroleum Co.,* 367 F. Supp. 1226, 1251-52 (C.D. Cal. 1973), *aff'd without opinion,* 418 U.S. 906 (1974).

6. *United States* v. *Penn-Olin Co.,* 378 U.S. 158, 163-64 (1964).

Use of the 70 percent figure would be generally consistent also with the Department of Justice's Merger Guidelines. The Guidelines state that the Department will normally attack any acquisition by "one of the most likely entrants into the market" of

> "(i) any firm with approximately 25% or more of the market;
>
> "(ii) one of the two largest firms in a market in which the shares of the two largest firms amount to approximately 50% or more;
>
> "(iii) one of the four largest firms in a market in which the shares of the eight largest firms amount to approximately 75% or more, provided the merging firm's share of the market amounts to approximately 10% or more; or
>
> "(iv) one of the eight largest firms in a market in which the shares of these firms amount to approximately 75% or more, provided either (A) the merging firm's share of the market is not insubstantial and there are no more than one or two likely entrants into the market, or (B) the merging firm is a rapidly growing firm." 1 TRADE REG. REP. ¶4510, at 6888.

The Department of Justice would not have regarded this acquisition as subject to attack.

Subparagraph (i) of the Guidelines is inapplicable here because Airco's share of the market does not remotely approach 25%, even by the Commission's calculation. Subparagraph (ii) is inapplicable because Airco is not one of the two largest firms in the market and because the shares of the two largest firms—Union Carbide and Air Products—do not amount to 50%, even by the Commission's calculation. Subparagraphs (iii) and (iv) do not apply be-

cause the shares of the eight largest firms in the industrial gases industry properly computed, amount to less than 64%.

Hence, irrespective of whether the 70% top eight concentration figure suggested here or the 75% figure contained in the Department of Justice's Merger Guidelines is the ultimate number—and we suggest again that numbers must yield to the reality of upstream integration—the necessary showing was not made below. Concentration in the industrial gases industry does not reach the 70% level for the top eight firms on any proper calculation.

C. The Commission Failed to Show that BOC Was the Most Likely Entrant.

Courts and commentators alike are agreed that the doctrine of potential competition is relevant at best only where the acquiring firm is one of a very small number of potential entrants. Where there is a larger number of potential entrants, the elimination of one by acquisition of an existing firm is unlikely to have any significant effect on the market. *E.g., FTC* v. *Procter & Gamble Co., supra*, 386 U.S. at 581; Berger & Peterson, *Conglomerate Mergers and Criteria for Defining Potential Entrants*, 15 Antitrust Bull. 489, 496 (1970); Davidow, *Conglomerate Concentration and Section Seven: The Limitations of the Anti-Merger Act*, 68 Colum. L. Rev. 1231, 1244-45, 1247 (1968); Turner, *Conglomerate Mergers and Section 7 of the Clayton Act*, 78 Harv. L. Rev. 1313, 1363 (1965).

The Commission here regarded BOC as "uniquely" likely to enter the market. (A883-84) Assuming that there can ever be a satisfactory means of ranking possible entrants

in order of likelihood of entry,* there was no basis for the Commission's conclusion here. If the same standards are applied to other possible entrants as were applied to BOC, there is no basis for concluding that BOC was more likely to enter than a substantial number of other potential entrants.

1. *The Existing U.S. Companies.* As we have seen, only three of the U.S. gases companies operate nationwide—Union Carbide, Air Products and Airco. Chemetron does not operate in much of the far west. (A1840-41) Liquid Air, which is a subsidiary of the world's largest gases company, does not operate in the northeast or midwest regions, the nation's largest markets. (A1462; A5563) Big Three operates primarily in the south. (F 45, A751, A854; A1853) Liquid Carbonic is principally a carbon dioxide producer. (A5564; A5583)

Each of these firms is a far more likely potential entrant into those areas of the industrial gases business in which it does not currently operate than is BOC. These companies already are on the ground in the United States; they have substantial experience in the market; and they are well known to U.S. gases users. They undoubtedly would find it far easier to expand, either by extension of their geographic markets or of their product lines, than BOC would find it to enter. If entry would be profitable for BOC, it would be profitable for these firms. And if the gases companies operating in one area of the country, for example the northeast, fear competition from anyone, it is far more likely to be from a U.S. company not presently in

* One respected authority has advocated abolition of the potential competition doctrine on the ground, among others, that such relative rankings cannot be made on any principled basis. Posner, *Antitrust Policy and the Supreme Court: An Analysis of the Restricted Distribution, Horizontal Merger and Potential Competition Decisions,* 75 Colum. L. Rev. 282, 323-25 and text at n. 146 (1975).

that area, such as Liquid Air, than from a foreign company like BOC.

The Commission did not find that BOC was more likely to enter than the existing firms were to expand. Instead, it dismissed the potential entry or expansion of existing U.S. gases companies with a sentence, stating that "these firms do not constitute major potential competition to the United States market as a whole and the 'Big Three' national firms that dominate the U.S. industry." (A884) But this is no more than an illogical *ipse dixit.* Moreover, it is in direct conflict with other aspects of the Commission's opinion.

The fact that these firms are in one or another corner of the industrial gases business in the United States does not mean that geographic or product expansion by them would lack competitive significance for the market as a whole. While it may be true that a decision by Big Three to expand nationwide from its Houston-Gulf Coast base, for example, would not necessarily affect competition in its small existing area, such expansion might have a dramatic impact in much of the rest of the nation. And surely such a decision might well result in "major . . . competition . . . to the 'Big Three' national firms that dominate the U.S. industry", to paraphrase the Commission. Indeed, the Commission's position on this issue is flatly contradicted by its holding that Liquid Air, another regional firm with a national market share of no more than 5.6%, would not be a permissible toehold acquisition "*since it was a rapidly expanding firm which had the financial backing to become a national producer.*" (A888 n. 18) (emphasis added)

The Commission's rejection of the significance of potential geographic expansion by existing U.S. gases companies

also is at odds with its view of the significance of potential entry by BOC. It evidently agreed that simultaneous nationwide entry by BOC was not feasible, but argued that BOC could have entered on a small regional basis, either de novo or by toehold acquisition, and then gradually expanded into a nationwide competitor.* (A887-88) But if potential expansion of a regional foothold by BOC would be of competitive significance for the national market, it follows *a fortiori* that potential geographic expansion by an existing regional producer would be of similar competitive significance.

Since the Commission's reasons for regarding expansion by U.S. firms as insignificant simply make no sense, and it did not conclude that BOC was more likely to enter than these firms were to expand, it had no basis for concluding that BOC was unique.

2. *The Foreign Gases Companies.* Three foreign industrial gases companies were identified below as possible entrants into the U.S. industrial gases industry: Linde A.G., Messer Griesheim and AGA. (A883) The Commission dismissed all of them as potential entrants because they were not perceived by the U.S. companies or by BOC as being very likely to enter. (*Ibid.*) In addition, Linde A.G. was written off on the theory that it lacks experience in the distribution of industrial gases, Messer Griesheim on the theory that it does not enjoy the same reputation in the industry as does BOC, and AGA because some witnesses felt it lacked the financial ability to enter the U.S. market, although there was no direct proof of that assertion. (*Ibid.*) In so doing the Commission applied a double standard to

* As noted in Point I above, w[illegible] uch a regional entry would have been technically feasible, BOC [illegible] ains it would not have been economically feasible.

BOC and to these other firms and ignored substantial undisputed evidence that suggests strongly that these firms were at least as likely to enter as BOC.

To begin, the fact that these three firms were not perceived by the existing U.S. gases companies as likely to enter proves nothing.* Virtually no one regarded BOC as likely to enter either.** Moreover, in actual potential entry cases the critical point is the objective probability of entry, not subjective perceptions of that probability.

The excuses for regarding these firms as somehow less qualified than BOC to enter are lame indeed.

Far from lacking experience in the distribution of industrial gases, it is undisputed that Linde A.G. markets industrial gases in Germany, Central Europe, South Africa and Australia. (F 82, A765, A856; A2522-24)

It is frankly difficult to see how any rational distinction can be drawn between BOC and Messer Griesheim on the evidence relied upon by the Commission. The testimony of a single witness that, in his judgment, Messer Griesheim lacks BOC's reputation in the industry (A883), is hardly probative when taken together with the admission by the

* The Commission's reliance on testimony of industry witnesses concerning the relative likelihood of entry by BOC and other foreign firms was most inappropriate. The ALJ denied BOC's pretrial motion for discovery of documents from U.S. gases companies relating to "marketing actions of other (including potential) producers". (A56, ¶¶2-3; A48, ¶2; A143-44) Thus, BOC was denied the opportunity of reviewing internal documents of the U.S. companies concerning marketing actions of potential entrants which—for all we know—showed that these firms really regarded other foreign firms as more likely to enter than BOC.

** One group of witnesses testified that they did not think that BOC or anyone else was likely to enter the U.S. market. (A1861-62, A1485, A2719-20) Another group testified that BOC was the most likely foreign entrant, but did not state that they thought that foreign entry was probable. (A1160-63, A1307-08)

same witness that Messer has "the technical resources and the marketing skills and the financial capacity to enter the industrial gases field anywhere in the world." (A1639) Indeed, it has financial resources several times those of BOC. (*Compare* A2978 *with* CX 11Q, at A3728)

Finally, while BOC in the past had expressed some doubts about AGA's ability to enter the U.S. market, BOC did not then know all the facts. *In camera* evidence below strongly indicates the contrary. (A2826-30; BOC RX 235, A6002)

These foreign firms, moreover, all have demonstrated significant interest in the U.S. market—at least if that interest is measured by the standard applied to BOC. Linde A.G. has a U.S. subsidiary engaged in the plant building business. (A2688) Both Linde A.G. and AGA have had contacts with Burdett of Norristown concerning the possible acquisition of that firm or a U.S. joint venture in the gases business. (A1729-30) And Messer Griesheim is a subsidiary of Hoechst, the giant German chemical combine which has a large U.S. subsidiary, American Hoechst. (A2978-79) Thus, all of these firms have had contacts with and demonstrated interest in the United States at least equal to BOC. If this is evidence of likelihood of entry, they must be regarded as at least equally probable entrants.

3. *Tonnage Users.* From what has been said already, it is clear that the tonnage users that already have integrated upstream and the many tonnage users capable of doing so are another group of obvious potential entrants. They have a clear incentive to enter, at least to the extent of back-integrating to supply their own needs. Moreover, they have significant advantages in expanding into the merchant market. They have their own internal demand as a

base from which to expand. As we have seen, they concededly have the technological know-how and the necessary financial resources. (*Supra*, pp. 22-23) They could provide backup from their existing production facilities and, as major consumers of industrial gases, would have leverage likely to enable them to obtain backup supplies from competing industrial gases companies. (A2721-22)

The Commission rejected the tonnage users as potential entrants because none had entered the market in the past and because industry witnesses felt that they did not have the marketing expertise to distribute gases successfully in the merchant market. (A883) But these arguments are fallacious. Tonnage users have entered the market in the past in the sense that many have integrated backward to supply their own gases. The likelihood that other tonnage users will do so in the future surely cannot be ignored on this record in view of the substantial degree of backward integration which already has occurred. The fact that these firms have not entered the merchant market in the past also proves very little. They, like BOC, evidently did not regard it as attractive. And the contention that these firms lack marketing expertise for merchant market distribution is somewhat disingenuous. They are perfectly capable of selling to independent distributors, which in fact is the manner in which several of the major industrial gases companies—including Airco—reach substantial portions of the market. (A1843, A2765, A4925) Some back-integrated companies already do so, at least on occasion. (A3528-30)

4. *Others.* The Commission's reliance on the toehold theory makes its conclusion that BOC was a unique potential entrant especially invalid. If the market is likely to

be economically attractive to BOC, it is likely to be economically attractive to other firms. And if entry via toehold acquisition really were feasible, there surely are many other firms with the ability to acquire any attractive toeholds.

Since there was no basis for concluding that BOC was anything other than one of a significant number of potential entrants, there was no basis for concluding that its elimination as a potential entrant is likely to have any significant effect. Hence, the doctrine of potential competition should not be applied here.

V

There Was No Showing that Entry by BOC Would Have Been Likely to Have Substantial Procompetitive Effects.

The Supreme Court recently held in *Marine Bancorporation* that in an actual potential entry case, the government must establish that toehold or de novo entry by the acquiring firm "offer[s] a substantial likelihood of ultimately producing deconcentration of that market or other significant procompetitive effects." 418 U.S. at 633; *accord, id.* at 638-39; Sloviter, *The October 1973 Term Merger Cases: Whither Clayton §7?*, 48 Temple L.Q. 861, 904-05 (1975). Moreover, Section 7 further requires that any such deconcentration or procompetitive effects be "substantial." 15 U.S.C. §18.

In this case, the Commission's trial counsel did not even make an effort to establish that entry would have substantial procompetitive effects. They called no experts. They did not attempt to show that L'Air Liquide's 1968 entry—approvingly referred to by the Commission as an exemplary toehold entry (A887)—had any procompetitive effect whatever. They did not even ask their industry witnesses—the competitors of Airco and BOC—what they would

have been likely to do had BOC entered the market de novo or via a toehold acquisition. The Commission made no finding of fact with respect to the probable effects of actual entry.

In these circumstances, it is perhaps not surprising that the Commission simply assumed that entry would have a procompetitive effect and held that BOC failed to prove otherwise. Its only discussion of the point was this paragraph:

> "In sum, we fail to find convincing reasons to view entry by BOC as lacking competitive significance for this industry. Entry by BOC by internal growth (or expansion of toehold firm) would add a new competitor and decision-maker to an industry that is already highly concentrated and becoming more so. New entry into another geographical market by a strong, proven-and-tried competitor frequently has the effect of shaking up established industry leaders and sets in motion pressures on them to compete more vigorously in price or services in order to retain their existing market shares." (A901)

This will not do.

The first problem with the Commission's decision is that it misallocates the burden of proof. *Marine Bancorporation,* as we have seen, clearly held that the Government must prove a "substantial likelihood" of procompetitive effects in the event of entry. The Commission ruled against BOC in substance because it found that BOC failed to disprove what the Commission was required to prove.

The Commission offers not proof but an assumption: that new entry is "frequently" procompetitive. "Frequently" will not meet the *Marine Bancorporation* test. And whatever the merits of the tendered assumption in

other circumstances, it ignores vital aspects of this case which suggest that many available means of entry would not be likely to have a substantial procompetitive effect.

If BOC were to enter by means of a toehold acquisition, there would be no assurance whatever that the entry would lead to deconcentration or to any increase in competition. Such an entry merely would substitute BOC for the acquired firm. Even expansion of such a toehold would not necessarily be likely to lead to increased competition because expansion—like entry itself—can take place through a series of acquisitions. A series of acquisitions probably would not have any beneficial impact on the vigor of competition and would merely increase the level of concentration in the market. Indeed, this is illustrated by L'Air Liquide's entry and expansion, which took place by acquisition of American Cryogenics, Industrial Air Products, Dye Oxygen, and Gulf Oxygen.

That toehold entry does not necessarily result in increased competition is established by the FTC's own research. In 1972, the Commission studied the competitive consequences of toehold acquisitions by nine conglomerate corporations in order to determine whether the hypothesis upon which the toehold theory is based has any empirical support. Federal Trade Commission, *Conglomerate Merger Performance: An Empirical Analysis of Nine Corporations* 8-9 (1972). The study found that "there is no systematic tendency for market shares [of acquired toeholds] either to increase or decrease after acquisition." *Id.* at 124. It concluded that the data:

> "indicate . . . that if conglomerates have followed a 'toehold' strategy of expanding market shares, they have been unsuccessful, at least up to this point, in challenging entrenched industry leaders. . . . From a

competitive standpoint, the effects of conglomerate diversification, as viewed in this chapter, appear to be largely *neutral.*" *Id.* at 127 (emphasis in original).

Even a de novo entry by BOC would not necessarily produce any measurable change in the level of competition in the national market found by the Commission. In the tonnage segment of the market, as we have seen, the customers are powerful and sophisticated industrial giants, and the competition—which takes the form primarily of competitive bidding on plants and supply contracts—is fierce. It cannot simply be assumed that the addition of one more bidder would substantially affect conditions in the tonnage market. On the merchant side, moreover, the Commission is faced with the consequences of its conclusion that the geographic market in this case is nationwide in scope despite the fact that any given gases plant can serve merchant market customers in only a small area. Even if we were to assume that de novo entry by BOC would have involved the construction of at least some new merchant market capacity—which might well be procompetitive—there is no basis for assuming that it would substantially improve competition in the nationwide market as a whole.

These problems are symptomatic of a more fundamental problem of the actual potential entrant doctrine. We have demonstrated above the high order of speculation involved in predicting the likelihood that entry in fact would occur. But even if it were established that entry in some manner was sufficiently likely, it is exceedingly difficult to evaluate the probable competitive effects of entry without highly specific information about the manner in which entry would occur. Professor Areeda ably summarized the point as follows:

"A market with relatively few producers might become more competitive if the number of rivals were

augmented by new entry. That possibility of future competition would be lost if the only potential entrants abandoned independent entry in favor of acquiring an existing producer in that market. There are many difficulties in translating this concern into a practicable legal test. Not the least of the problems is the absence of any quantitative measure of how substantial a competitive factor a possible future new entrant would have been had it come in on its own.

* * *

[Potential future entry as an addition to future competition] involves actual entry, has no impact until it occurs, *and cannot be assessed apart from the uncertain scale, manner, and psychology of the actual entry that does occur.*" P. AREEDA, ANTITRUST ANALYSIS 665, 666 (2d ed. 1974) (emphasis added).

While it may be possible to solve this problem for some potential entry cases in some industries, the complexities of the industrial gases industry—including the segmentation of the market into tonnage and merchant portions, the existence of nationwide tonnage marketing side-by-side with much more localized marketing in the merchant segment, and the variety of radically differing means of entry, all of which are technically feasible—make easy assumptions highly unreliable. Hence, the Commission's ready assumption that entry probably would have had a substantial procompetitive effect is not justified on this record.

Even if the assumption that new entry probably would be procompetitive in this industry were valid, there would be another problem with the Commission's reasoning.

Airco is the only one of the three largest firms in the U.S. gases industry which lacks the ability to build its own air separation plants, and it therefore is at a disadvantage vis-a-vis Union Carbide and Air Products. This acquisition brings BOC's plant building capacity to Airco and makes

it better able to compete with the industry leaders. (A2496, A2973-77) Hence, this acquisition is likely to have procompetitive effects.

Since the Commission failed to weigh the probable direct procompetitive effects of this acquisition against the benefits it assumed would flow from another form of entry by BOC, there is no basis for its conclusion that the net effect of barring this acquisition would be substantially procompetitive. It may well be that the beneficial effect of strengthening Airco vis-a-vis the industry leaders would exceed any benefits of another means of entry by BOC.

And so we are at the end of the gases side of the case. As unsound in law as it is unsupported in fact, the Commission's decision as to gases must fall.

MEDICAL EQUIPMENT

The Commission found that BOC's acquisition substantially lessened competition in three tiny medical equipment product lines—anesthesia face masks, anesthesia vaporizers and anesthesia machines. (A905-07) These findings must be vacated and the medical equipment phase of the case dismissed for two reasons:

First, complaint counsel at trial unequivocally disclaimed reliance on any such markets. The Commission's reliance on product lines disavowed at trial violates a cardinal principle of fairness embodied in the Administrative Procedure Act and the Fifth Amendment.

Second, there is no basis for the Commission's conclusion that BOC's acquisition is likely to lessen competition with respect to any of these product lines or that any of them is a proper product market.

I

The Medical Equipment Case Is Based on a Theory Which the Commission Abandoned.

At trial, complaint counsel attempted to prove violations of Section 7 in two alleged medical equipment markets: inhalation anesthetic equipment and accessories ("IAE") and inhalation therapy equipment and accessories ("ITE"). These markets were said to consist of many items of equipment used in the administration of gases for anesthetic (IAE) and therapeutic (ITE) purposes. (Cpt. ¶¶1(b), (c), A18; F118, A782-85; F115, A797-800; A833-35; A837-38)

At the beginning of the medical equipment phase of the hearing, BOC sought clarification as to whether complaint

counsel alleged violations of Section 7 in submarkets consisting of the individual types of equipment and accessories comprising the alleged IAE and ITE markets—including anesthesia face masks, vaporizers and machines—as well as in the alleged IAE and ITE markets as a whole. Complaint counsel responded unequivocally that they alleged violations only in the IAE and ITE markets as a whole and not in any submarkets. The colloquy was as follows:

> "Mr. Topkis [BOC counsel]: Excuse me. Before we get around to calling witnesses, Your Honor, I want to make sure we absolutely understand each other. In the markets we are dealing with, we are dealing with the medical side, with inhalation anesthesia equipment and inhalation therapy equipment *and nothing else, no larger markets or submarkets?*
>
> "Mr. Thurman [complaint counsel]: *That is correct, Your Honor,* except accessories to the anesthesia equipment and therapy equipment accessories." (A1960) (emphasis added)*

In preparing and trying this case, BOC relied upon complaint counsel's careful specification of the markets alleged. Indeed, BOC made its reliance explicit during the hearing. For example, when complaint counsel attempted to elicit evidence concerning sales of anesthesia machines, as opposed to total sales of IAE, BOC's counsel stated:

> "Mr. Kaplan: I object. At the outset of this case we specifically addressed a question to complaint counsel as to whether there was going to be any effort or reliance on sub-markets in this case and the answer

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* Mr. Thurman was not suggesting that "accessories" constituted separate markets—he was only reminding the ALJ that the IAE and ITE markets he was asserting included equipment *and* accessories.

was an unqualified no, an answer which has shaped the whole course of defense." (A3186-87; *see also* A3058)

In view of complaint counsel's disavowal of reliance on submarkets in IAE, complaint counsel offered no evidence as to whether there was a violation of Section 7 with respect to any of the individual products—including anesthesia face masks, vaporizers, and machines—constituting IAE. Moreover, while the ALJ found that this acquisition violated Section 7 with respect to the alleged IAE market (A833-40), he did not address the issue whether anesthesia face masks, vaporizers or machines were even relevant lines of commerce.

On appeal, the Commission held that IAE was not a proper product market because it included many very different types of non-competing products sold by different companies. (A904-05) Having so found, the Commission should have dismissed the medical equipment aspect of the complaint.* But the Commission instead held that there were violations of Section 7 in three product lines within IAE. Thus, it based its decision on grounds upon which complaint counsel had expressly disavowed reliance and which therefore had not been litigated below.

The effect of the Commission's decision here was to abrogate the waiver made by its own trial counsel and relied upon by BOC and to find BOC guilty of charges of which it had no notice and upon which it had no opportunity to be heard. In light of the Fifth Amendment, the

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* The Commission dismissed the ITE case because ITE was not a proper product market and on other grounds, discussed *infra*.

Administrative Procedure Act* and elementary principles of fairness, the decision below cannot stand.

This Court decided a very similar issue in *Stanley Works* v. *FTC,* 469 F.2d 498 (2d Cir. 1972), *cert. denied,* 412 U.S. 928 (1973). There the Commission attacked Stanley's acquisition of Amerock on the theory that it eliminated Stanley both as an actual competitor and as a potential de novo entrant into the cabinet hardware market. The case was tried on this basis. The Commission held the acquisition unlawful on actual competition grounds and—although it had not been litigated below—on the alternative ground that Stanley had been a potential entrant via a toehold acquisition. This Court sustained the Commission's decision on the actual competition theory. But it held that the Commission erred in relying on the toehold theory because it had not been raised below. Speaking through Chief Judge Kaufman, the Court—unanimous on this point—stated:

> "Stanley urges that the 'toehold theory' was not raised in the complaint, never litigated at the hearing, nor considered by the Examiner. It contends therefore, that any judgment based on the 'toehold theory' would be violative of Fifth Amendment Due Process, and Section 5 of the Administrative Procedure Act, 5 U.S.C. §554. We agree that the 'toehold theory' was not litigated before the Examiner, and that the Com-

* Section 5 of the Administrative Procedure Act, as amended, 5 U.S.C. §554, provides in pertinent part:

"(b) Persons entitled to notice of an agency hearing shall be timely informed of—

* * *

(3) the matters of fact and law asserted.

* * *

"(c) The agency shall give all interested parties opportunity for—

(1) the submission and consideration of facts [and] arguments . . . ."

> mission was without authority to consider it. *Cf.* Bendix Corp. v. FTC, 450 F.2d 534 (6th Cir. 1971)."

469 F.2d at 508-09 n.24. *Accord, id.* at 520-21 (Mansfield, J., dissenting on other grounds); *Rodale Press, Inc.* v. *FTC*, 407 F.2d 1252, 1256-57 (D.C. Cir. 1968).

The facts of the case at bar are more compelling than those in *Stanley Works.* Not only were these three medical equipment product lines not litigated below, they were explicitly disavowed.

As the Commission itself recognized in this very case, charges which were not litigated below because they were disclaimed by complaint counsel must be dismissed. In reversing the ALJ's conclusion that potential competition in ITE was affected adversely by BOC's acquisition and dismissing the ITE case, the Commission stated:

> "As to the possibility that potential competition may have been eliminated or lessened, complaint counsel stated during the hearing that they were basing their case in inhalation therapy equipment solely on the foreclosure of 'actual' competition between the firms, not on any charge that BOC's importance to the market was due to future entry on a much grander scale. Respondent's counsel clearly relied on complaint counsel's statement and refrained from eliciting testimony relating to any issue of potential entry.
>
> "Accordingly, the allegation that . . . potential competition in inhalation therapy equipment or submarkets thereof [has] been substantially diminished as a result of the BOC acquisition of Airco stock must be dismissed." (A909)

For the same reasons, the Commission's findings of violations of Section 7 with respect to the three medical equip-

ment product lines disclaimed by complaint counsel should be vacated and the charges dismissed.*

The Commission's proof here simply "fell short of its allegations—a not uncommon form of litigation casualty from which the Government is no more immune than others." *United States* v. *Yellow Cab Co.*, 338 U.S. 338, 341 (1949).

* *Ernst & Ernst* v. *Hochfelder*, 96 S. Ct. 1375, 1391 (1976); *Bloomfield Mechanical Contracting, Inc.* v. *Occupational Safety & Health Review Comm'n*, 519 F.2d 1257, 1260 (3d Cir. 1975); *Miller* v. *United States*, 500 F.2d 1007 (2d Cir. 1974); *Jaffee & Co.* v. *SEC*, 446 F.2d 387, 392-94 (2d Cir. 1971).

II

The Record Does Not Support a Finding of Violation of Section 7 in Any of the Alleged Medical Equipment Product Lines.

A. The Commission's Market Share Data—the Sole Basis of Its Decision—Are Unreliable and Incomplete.

The Commission's medical products case is based exclusively upon statistics plucked from the record on appeal to the Commission, which the Commission claims show that BOC and Airco together have substantial market shares in the three recently alleged markets. These statistics do not prove a violation of Section 7 for two reasons: First, the statistics are virtually meaningless and do not establish market share data. Second, market share statistics—standing alone—cannot prove a Section 7 violation. A further examination of the structure, history and probable future of the market must be made, and this was not done here.

The Commission's statistics are useless primarily because they are based on spurious universe figures (*i.e.*, total sales of a given product). There is absolutely no reason to conclude that the total sales figures or market share data for anesthesia face masks, vaporizers or machines set forth in the Commission's decision have any basis in fact. To understand this, it is necessary to know how the statistics were gathered.

Prior to the hearing below, complaint counsel served subpoenas duces tecum calling for sales data from 37 com-

panies. The Initial Decision found: "There is no evidence as to how complaint counsel arrived at the names of the companies to be served with subpoenas." (F133. A790)

Complaint counsel prepared a table of IAE sales which was compiled from the subpoena returns plus the stipulated sales figures of BOC and Airco. (CCR, confidential supplement, Table I) This table was substantially copied by the ALJ in the confidential supplement to the Initial Decision. (A791, A5333-34)

The universe figures cited in the Commission's opinion are the aggregate sales figures for each product contained in the table in the Initial Decision. (*Compare* A906 *with* A5333) But these aggregate sales figures do not include—or even purport to include—sales by all manufacturers of anesthesia face masks, vaporizers or machines. Nor is there any evidence to support an inference that these aggregate sales figures approximate universe figures.* Indeed, the record as it exists reveals that there are at least five

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* Complaint counsel sought to provide a basis for inferring that the total IAE sales listed by the 37 firms responding to their subpoena approximated total IAE sales nationwide by asking several industry witnesses to estimate the total size of the alleged IAE market. (F 136, A791) This approach was sanctioned by the Commission in *Papercraft Corp.*, 78 F.T.C. 1397, 1405 (1971), *aff'd on other grounds*, 472 F.2d 927 (7th Cir. 1973). But here the technique was unsuccessful, as the estimates given varied by more than 50%. *See* F 136, A791-92. *Compare* A1984 *with* A2138 *and* A2234-35, A2265 *and* A2279 *and* A3070-71, A3087, A3129. *Compare* A1995 *with* A2138 *and* A2239 *and* A2282-83 *and* A3285-87. Furthermore, there was no effort to obtain such estimates for the three product lines ultimately adopted by the Commission. (If the Commission had relied upon so-called *Papercraft* estimates of total sales in these product lines, we would dispute vigorously the validity of the *Papercraft* approach. It is inherently subject to serious error—as the disparity of the IAE estimates in this case proved—and, moreover, depends exclusively on the self-interested testimony of competitors. The approach has never been sustained by any court. *Cf. id.*, 472 F.2d at 930.)

manufacturers of anesthesia machines,* three manufacturers of anesthesia face masks** and one manufacturer of anesthesia vaporizers† for which there is no sales information in the record. Hence, there is no reason to believe that the Commission's total sales figure for each of these products bears any resemblance to reality.‡

B. In Any Event, the Market Share Data Are Not a Sufficient Basis for Assessing Competitive Effects.

Even if the Commission's case were based on accurate statistics, the statistics would not suffice here.

In *United States* v. *General Dynamics Corp.*, *supra*, 415 U.S. 486, the Supreme Court held:

> "In *Brown Shoe* v. *United States*, *supra*, we cautioned that statistics concerning market share and con-

* These are: Grumman Health Systems (A3135, A5248), Adec (A2265), Dentatron (A2265, A3129), Hampton Research (A2265) and Star Dental (A2265, A3129). The latter four companies are manufacturers of dental nitrous oxide sedation machines, which the Commission held are part of the anesthesia machine product line. (A904 n. 30)

** These are: Eschmann U.S.A., Inc. (A3087, A5247), Franklin (A3087) and Robertshaw Controls Co. (*see* BOC PF 405, A614).

† Penlon. (A2035, A3071)

‡ The market share figure for anesthesia face masks is unfairly inflated also because it is based on an overstated sales figure for BOC. The $36,275 figure for BOC sales of anesthesia face masks is taken directly from Table I of the Initial Decision. (A5333) Footnote 17 of the table explains that this figure includes: (1) $25,368.80 of rubber and plastic sundries which are described in exhibits cited in that footnote as including many products besides face masks (A5849-52) and (2) products sold by BOC to Airco for resale. Moreover, although the Initial Decision claims that this table is basically the same as the one proposed by complaint counsel (A791), complaint counsel's table lists BOC's sales of anesthesia face masks as only $19,968. (CCR, confidential supplement, Table I) This jump from $19,968 to $36,275 is unexplained. Indeed, it is impossible to tell from this record exactly what BOC's sales of anesthesia face masks were. This failure of proof is not surprising since complaint counsel did not allege this line of commerce at trial.

centration, while of great significance, were not conclusive indicators of anticompetitive effect:

" 'Congress indicated plainly that a merger had to be functionally viewed, in the context of its particular industry.' 370 U.S., at 321-322.

" 'Statistics reflecting the shares of the market controlled by the industry leaders and the parties to the merger are, of course, the primary index of market power; but only a further examination of the particular market—its structure, history and probable future—can provide the appropriate setting for judging the probable anticompetitive effect of the merger.' *Id.*, at 322 n. 38." 415 U.S. at 498.

The import of *General Dynamics* is that while market share data can be significant, they do not alone prove a Section 7 case. There also must be a further examination of the market which, together with market share data, shows that the acquisition is likely substantially to lessen competition.

Here there was no "further examination" of these three product lines which were conjured up by the Commission only after the record was closed. Hence, the Commission erred in finding violations of Section 7 in these lines.

C. The Commission Could Not Properly Conclude that Anesthesia Face Masks, Vaporizers and Machines Are Relevant Product Markets.

In order to prove a violation of Section 7, it is first necessary to prove the existence of a relevant product market. In *E. I. du Pont de Nemours & Co., supra*, 353 U.S. 586, the Supreme Court held:

"Determination of the relevant market is a necessary predicate to a finding of a violation of the Clayton Act because the threatened monopoly must be one which will substantially lessen competition 'within the area of effective competition.' Substantiality can be

determined only in terms of the market affected.'' 353 U.S. at 593.

After vacating the ALJ's finding of fact that IAE is a relevant product market, the Commission inserted a one-sentence finding that anesthesia face masks, vaporizers and machines are lines of commerce for purposes of Section 7. (A859) But there is not a single word of explanation in the Commission's opinion or findings as to why any of these products constitutes a distinct line of commerce.

The Commission's failure to explain the basis for its finding violates Section 8(b) of the Administrative Procedure Act* and is an independent basis for reversal. *E.g., Marco Sales Co.* v. *FTC,* 453 F.2d 1, 7-8 (2d Cir. 1971).

The Commission's failure to explain itself is understandable. The record before the Commission was the record of a litigation in which these product markets were neither alleged nor tried. This record simply cannot support a finding or conclusion that anesthesia face masks, vaporizers or machines is a proper product market.

After striking down the only medical products markets which were alleged and litigated below, the Commission should have dismissed the medical equipment part of the complaint. Instead, the Commission sought to find violations in three other alleged product lines for which the record does not support a finding of violation of Section 7. Since the Commission has failed to prove that BOC's acquisition violated Section 7 with respect to any medical equipment product, the medical equipment part of the complaint should be dismissed.

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* 5 U.S.C. §557(c)(3). This statute provides in pertinent part:

"All decisions . . . shall include a statement of—

(A) findings and conclusions, and the reasons or basis therefor, on all the material issues of fact, law, or discretion presented on the record."

Conclusion

For the foregoing reasons, BOC's petition for review of and to set aside the order of the Federal Trade Commission should be granted in all respects and the order should be set aside.

Dated: July 26, 1976

Respectfully submitted,

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ANNEX

Estimation of Value of Captive Production of Industrial Gases

As we have noted in the text, Census Bureau data for the value of shipments of industrial gases do not include the value of gases captively produced. These gases are not "shipments", as they are consumed in plants in which they are produced.

The Census Bureau does collect data for the *volume* of certain gases which are captively produced, *i.e.,* consumed in the producing plant. It therefore is possible to estimate the value of such production by multiplying the volume of gases so produced by the average unit value of shipments of such gases. The following table sets forth the volumes of hydrogen, acetylene, nitrogen, and oxygen which the Census Bureau reported for 1972 as produced for consumption in the producing plant—the captive production, the average unit value of each gas, and the estimated value of the captive production.

1972 ESTIMATED VALUE OF CAPTIVE PRODUCTION REPORTED BY THE CENSUS BUREAU*

Gas	*Volume of Captive Production (million cubic feet)*	*Unit Value ($000/million cubic feet)*	*Estimated Value of Captive Production ($millions)*
Hydrogen	40,500	$ 1.7	$ 68.85
Acetylene	4,350	13.1	56.99
Nitrogen	15,580	.27	4.21
Oxygen	51,480	.48	24.71
			$154.76

* Sources: Volume of captive production appears for each gas as "produced for consumption in this plant" in CX 312, at A4891-92. Unit values appear in BOC RX 190 (A5208), BOC RX 195 (A5213), BOC RX 196 (A5214), and BOC RX 199 (A5217). Unit values for gas delivered by pipeline are used where available, as this is the most conservative figure and the means of distribution for tonnage gases.

Thus, the estimated value of captively produced hydrogen, acetylene, nitrogen and oxygen reported to the Census Bureau for 1972 was $154.8 million.

It must be emphasized that even this figure is a substantial underestimate, as the Census Bureau data on volume of gases captively produced are incomplete.

First, the volume data for the production of hydrogen exclude hydrogen "produced and consumed in the manufacture of synthetic ammonia and methanol . . . and amounts produced in petroleum refineries for captive use." (A 4892 n. 5) Hydrogen is used extensively in the manufacture of synthetic ammonia and in petroleum refining. (A 2894-95, A2900-01)

Second, the Census data exclude nitrogen "produced and consumed in the manufacture of synthetic ammonia and ammonia derivatives." (A4892 n. 6) This is a significant use of nitrogen. (A2922-23, A2925)

UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

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BOC INTERNATIONAL LIMITED, f/k/a THE BRITISH OXYGEN COMPANY LIMITED, BOC FINANCIAL CORPORATION, BOC HOLDINGS, LIMITED, and BRITISH OXYGEN INVESTMENTS, LIMITED,	:	
Petitioners,	:	
-against-	:	No. 76-4044
FEDERAL TRADE COMMISSION,	:	
Respondent.	:	

- x

AFFIDAVIT OF SERVICE

STATE OF NEW YORK)
: ss.:
COUNTY OF NEW YORK)

MOSES SILVERMAN, being sworn, says:

1. I am not a party to this action, am over the age of 18 years, and reside at 233 East 59th Street, New York, New York 10022.

2. On July 26, 1976, I served the foregoing brief upon Respondent by depositing three true copies thereof enclosed in a postpaid wrapper in an official depository under the care and custody of the United States Postal Service ad-

dressed to Jerold D. Cummins, Esq., Office of the General Counsel, Federal Trade Commission, Washington, D. C. 20580.

Moses Silverman

Sworn to before me this
26th day of July, 1976

Susan J. Olah

SUSAN J. OLAH
Notary Public, State of New York
No. 31-4605174
Qualified in New York County
Commission Expires March 30, 1977